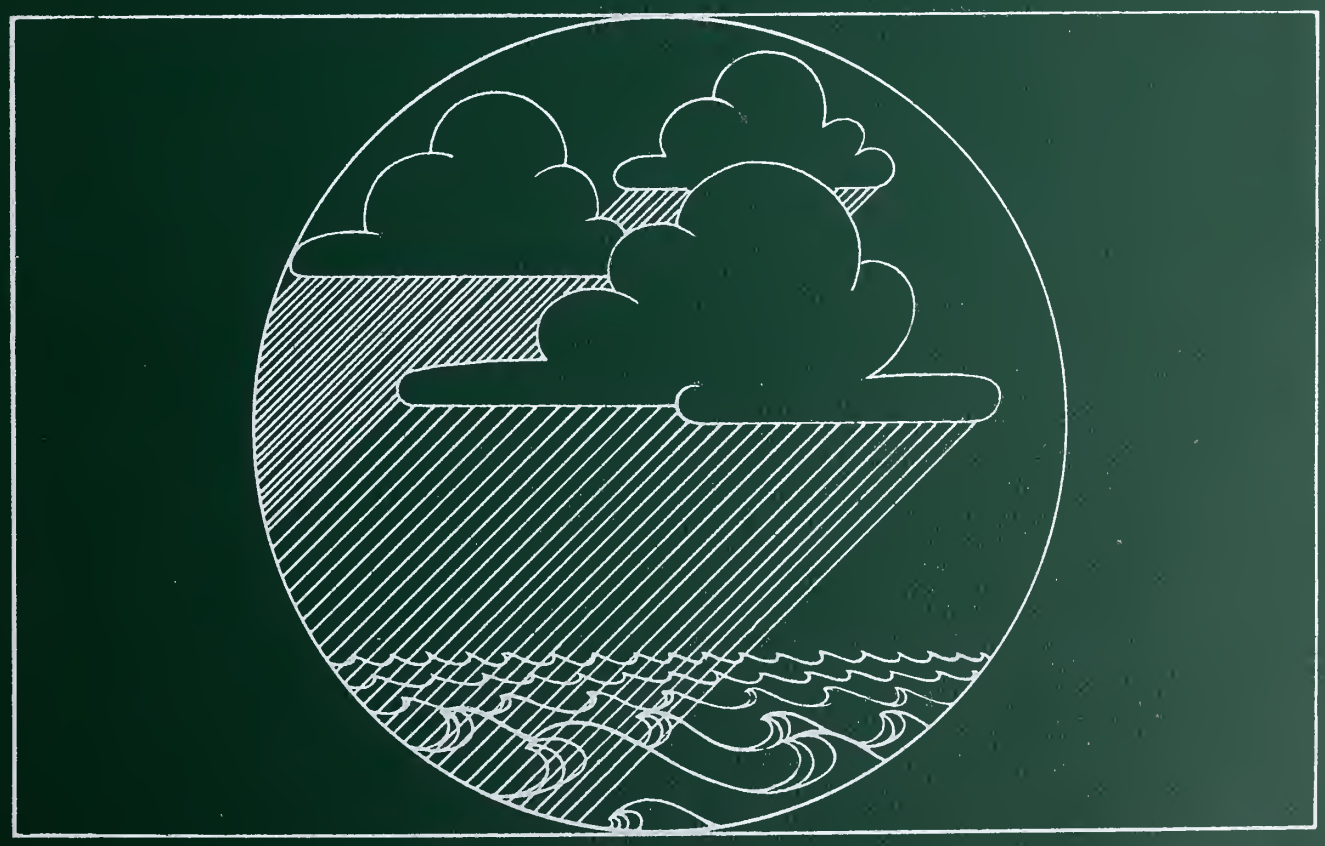
STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY

WATER QUALITY MANAGEMENT BASIN PLAN PHASE 1

Big Muddy River Basin



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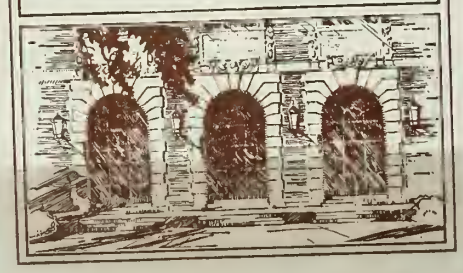

State of Illinois

Environmental Protection Agency

PHASE I

of the

WATER QUALITY MANAGEMENT BASIN PLAN

for the

BIG MUDDY RIVER BASIN

Volume I

Existing Water Quality

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Acknowledgement

Water Quality Management Basin Plans for the State of Illinois were prepared by the Illinois Environmental Protection Agency, Division of Water Pollution Control, Planning and Standards Section. We gratefully acknowledge the assistance of other divisions and sections within IEPA that have provided data for this plan. Special acknowledgement goes to the Illinois State Water Survey for providing data used in the preparation of the Physical Description portion of the plan.

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Organization of Volumes

Volume

I Existing Water Quality

This volume is the main document for the Phase I Plans. It contains the identification of water quality problems of the basin and sets forth an initial interim program to alleviate those problems. It has been arranged by chapters and includes Appendices C, D, and E.

II County Maps (Appendix A)

Discharge points of the wastewater treatment facilities within the basin have been provided on county maps with the related basin and segment lines shown. An additional set of county maps has been included to show the locations of the operating solid waste disposal sites, public water supply treatment facilities that discharge to surface waters and the associated surface water intakes, permitted feedlots, deep well disposal sites, and permitted mines in the basin. Additional information concerning each discharge may be found in Volume III.

III Discharge Information Sheets (Appendix B)

This volume contains a collection of information sheets including wastewater treatment facilities, permitted feedlots, public water supply facilities, deep well disposal sites, permitted mines, and operating solid waste disposal sites. An index to discharges within each county in the basin is provided. Locations of the discharges may be found on the maps in Volume II.

IV Facility Planning Area Maps (Appendix F)

Preliminary FPA boundaries are shown as delineated at this time within the basin. Each county map has been divided into a number of overlapping portions designated A, B, C, etc. and so labeled. The appropriate FPA and corresponding county map for a specific facility may be determined by referring to the information sheet found in Volume III.

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CHAPTER I

INTRODUCTION

The Federal Water Pollution Control Act Amendments of 1972 (P.L. 92-500) constitute one of the most complex and far-reaching pieces of legislation ever to emerge from the U.S. Congress. It establishes highly inter-related programs for setting water quality goals and standards, planning and constructing wastewater treatment facilities, awarding grants for design and construction of municipal sewage facilities, issuing permits for wastewater discharges, and enforcing of the terms of these permits as necessary, and evaluating effects of diffuse "nonpoint" sources of water pollution and developing remedial programs.

In order to provide a mechanism for integrating all of these activities into a well-coordinated overall program, Congress stipulated in Section 303(e) of P.L. 92-500 that each state should maintain a "Continuing Planning Process" for establishing and implementing the state's water quality standards. This Process was to be described in a written submittal to the U.S. Environmental Protection Agency and must be approved by the Regional Administrator of USEPA. Illinois received full USEPA approval of its CPP on September 12, 1975. The version of the CPP which was approved on that date was predicated on an interpretation of P.L. 92-500 which required the Process to provide satisfaction of all the requirements of Section 303(e) and related provisions for all areas of the state. It did not consider that all of the requirements of Section 208 must be satisfied in all areas, but rather that the 208 requirements necessarily applied only in those areas designated for more detailed and comprehensive planning under the provisions of Section 208. It was also conceived that the more rigorous requirements of Section 208 were the responsibility of the areawide planning agency designated under provision of Section 208, and not of the state.

The planning required to be completed prior to July 1, 1976, known as "Phase I plans," are described in 40 CFR Parts 130 and 131, "Water Quality Management Basin Plans," promulgated on June 30, 1974.

This document has been prepared to satisfy the need for Phase I planning. It is anticipated that considerable use will be made of this plan during subsequent "Phase II" planning efforts.

In the matter of Natural Resources Defense Council, Inc. et. al. vs. Russell E. Train et. al., Civil Action No. 74-1485, the U.S. District Court for the District of Columbia ruled on June 5, 1975 that the planning and management requirements of Section 208 apply

in all areas of the state, and that in those areas where designations of local planning agencies under Section 208 have not been made, the state is the responsible agency for conducting the planning. The Court also ruled that federal grant assistance under Section 208 may be awarded to the states for conduct of the required planning programs. This too was a reversal of USEPA's policy. As a result of this ruling, USEPA has revised its regulations to provide the following:

1. The state, as represented by a water quality planning agency designated by the Governor, has the ultimate authority and responsibility for water quality management planning in all areas of the state, designated or not.

2. The state may delegate all or portions of this authority to other units of government either by designation or by agreement. The chief difference will lie in the relationship of the agency receiving the authority with the USEPA.

3. All of the planning requirements set forth in either Section 303(e) or Section 208 must be satisfied and the plans adopted and submitted to USEPA for federal approval by November 1, 1978.

4. Although some federal grant assistance will be available to support the planning effort, insufficiency of federal funds will not relieve the state of the responsibility to carry out the required planning, in the eyes of the USEPA.

Water quality management planning completed between July 1, 1976 and November 1, 1978 is considered to be part of Phase II.

Overview of the Illinois Water Pollution Control Program

The basic framework for the water pollution control activities of Illinois state government is established by the Environmental Protection Act of 1970, as amended (EP Act). This statute lays out the fundamental authorities and responsibilities of the three state agencies most directly involved in water pollution control in Illinois. It is the express purpose of the EP Act to establish a unified statewide program, supplemented by private remedies, to restore, protect, and enhance the quality of the environment, and to assure that adverse effects upon the environment are fully considered and borne by those who cause them.

Pollution Control Board

The Pollution Control Board, consisting of five full-time members appointed to staggered, three-year terms by the Governor, establishes regulations (including water quality standards), acts as the court of original jurisdiction in the enforcement of the Act and Board Regulations, and grants variances of limited duration from provisions of the Act or Regulations when justified.

The regulations adopted by the Board set forth the primary requirements to be met in order that the state's environmental objectives be achieved. Careful review of these regulations, particularly Chapter 1: Procedural Rules and Chapter 3: Water Pollution is necessary in order to fully understand the state's water pollution control program.

Chapter 3: Water Pollution sets forth a comprehensive regulatory foundation for achievement of the state's water quality objectives. It establishes water quality standards for various categories of stream use; it designates water uses for all waters of the state; it defines effluent standards which represent a uniform minimum level of effluent quality which must be achieved irrespective of water quality effects, along with schedules for compliance; it sets forth monitoring and reporting requirements and certain basic design criteria for facilities which have the potential to cause water pollution; it prohibits the discharge of wastes from watercraft; it establishes requirements for various categories of permits, including those for construction of treatment facilities and for state-issued NPDES permits; it prescribes a regional approach to sewage treatment for DuPage County; and it provides a requirement for state-certified wastewater treatment operators for every treatment facility in Illinois.

Chapter 4: Mine Related Pollution sets forth special regulatory requirements for mines, quarries, and gravel pits. Chapter 5: Agriculture Related Pollution provides control over livestock wastes. Chapter 6: Public Water Supply establishes, among other things, raw water quality standards for public water supplies. Chapter 7: Solid Waste contains rules and regulations for the proper disposal of solid wastes.

An important feature of Illinois' environmental laws which is not found in the federal law is the variance provision. Upon a formal demonstration of arbitrary or unreasonable hardship, the Pollution Control Board may grant a variance from the limitations of the Environmental Protection Act or Board Regulations. In cases where an NPDES permit is involved, variances may be for as long as five years; in all other cases a one-year limit is placed on the term of the variance. Reporting requirements and performance bonds are frequently made conditions of a variance. Obviously, the Board may not grant a variance in conflict with federal law.

It should be noted that all important Board actions occur at public meetings and usually are based on records of one or more public hearings. The Environmental Register is published regularly to inform the public of Board actions and matters pending before the Board. Thus, the vital policy-making role of the Pollution Control Board is constantly exposed to public scrutiny and input, and this public participation profoundly affects the conduct of the entire water pollution program, not only by the Board, but also by the Environmental Protection Agency which is bound by the regulatory, enforcement, and variance actions of the Board.

Environmental Protection Agency

The Environmental Protection Act created the Illinois Environmental Protection Agency (IEPA) as the enforcement and service arm of the state's environmental apparatus. In this role, IEPA is responsible for implementation of the regulations set by the Board, and functions as the state water pollution control agency for the purposes of P.L. 92-500. The Agency conducts or coordinates the various planning programs called for by the Federal Act; it administers both the federal municipal sewage treatment facilities construction grant program and a parallel state grant program; it issues permits for the construction and operation of wastewater sources and treatment facilities; it conducts a comprehensive program of surveillance and monitoring of both discharges and ambient water quality; it assists in training wastewater treatment operators and certifies those operators according to Board regulations; it investigates violations of the Act and regulations and takes appropriate enforcement actions, including referral to the Attorney General or USEPA when voluntary compliance does not occur; it reviews Board standards

and regulations and recommends appropriate amendments when needed; and it performs numerous other related functions as a part of the overall water pollution control program. A more detailed description of the Agency's water pollution control activities can be found in the state's annual Program Plan.

Institute for Environmental Quality

The third agency created by the Environmental Protection Act is the Institute for Environmental Quality. This organization is charged with providing support to the Board and IEPA in the form of applied research, relevant data, and policy recommendations. The Institute also functions as the environmental education coordinator for the state. A comprehensive library of environmental materials is maintained by the Institute for public use.

The State Program in the Federal Context

Illinois has long been recognized as a leader among states in the control of water pollution. The reversal of flow of the Chicago River to divert its polluted waters away from Lake Michigan in 1900 has been recognized as one of the greatest engineering feats of all time. The adoption of the Sanitary Water Board Act in 1929 made control of water pollution a universal requirement in Illinois. A requirement for a state construction permit for wastewater treatment facilities was made law in 1951. The Environmental Protection Act of 1970 preceded by nearly three years the establishment of a correspondingly comprehensive program for water pollution control at the federal level. When secondary treatment became a minimum requirement of federal law in 1972, over 99 percent of Illinois discharges were already in compliance with that requirement.

The adoption of the Federal Water Pollution Control Act Amendments of 1972 (P.L. 92-500) has established several new dimensions to water pollution control programs in virtually every state, including Illinois. Among the most important of these dimensions are the recognition of the importance of sound institutional arrangements for implementation of the required programs at the local level, and the acknowledgement of the significant role played by nonpoint sources of pollutants in the degradation of our streams and lakes. P.L. 92-500 also recognizes the importance from the management decision-making standpoint of having comprehensive and well-organized formal plans to guide the progress of the program. It is these new dimensions that lie at the heart of the Water Quality Management Planning Program to be carried out in Phase II.

Purpose and Scope of Water Quality Planning in Illinois

Through the years, a variety of programs and activities have evolved both in Illinois and nationally which have been directed at prevention or elimination of water pollution. Generally, these programs and activities have been carried out with less coordination than is desirable. One of the purposes for establishment of a water quality planning process, such as the one described here, is the provision of a framework for more effective integration of these various programs and activities, and to establish a mechanism by which the important decisions, made in these programs, will be better coordinated.

It follows, then, that the prime purpose of water quality planning in Illinois is: to provide decision makers with an up-to-date assessment of water quality and with program management information necessary to make centralized and coordinated decisions; to encourage water quality objectives which take into account overall state policies and programs; and to furnish strategic guidance for developing an annual program plan.

More specifically, the purpose of this Phase I plan is to identify water quality problems of the basin under study and to set forth an initial interim program to alleviate those problems. Using the best available monitoring and surveillance data, the following areas of water quality have been analyzed:

1. Identification of problems
   Assessment of existing water quality in relation to the currently applicable water quality standards; location of point sources of pollution and, where possible, non-point sources of pollution;

2. Assessment of needs and waste load reduction requirements
   Assessment of abatement needs and establishment of effluent limitations to reduce the pollutional load on streams and to achieve compliance with applicable water quality standards;

3. Schedule of actions
   Setting forth compliance schedules where state and National Pollutant Discharge Elimination System permits have been issued or target abatement dates where permits have not been issued;

4. Planning needs
   Identifying Section 201 facilities planning areas and particular problems of the basin requiring further planning;

5. Water Quality Indices
   Summary and discussion of Water Quality Indices as developed by IEPA using four water quality parameters (dissolved oxygen, fecal coliform, total dissolved solids and ammonia nitrogen);

6. Aquatic Life Surveys
   Summary and discussion of aquatic life surveys performed by the IEPA and its contractors on Illinois streams;

7. Maps of Counties/Basins
   Basin maps, by counties, with accurate information on the location of discharges, landfills, public water supplies, feedlots, mines, waste disposal wells, USGS gaging stations and Illinois EPA water quality sampling stations;

8. Soil Erosion/Lakes
   Discussion of sediment/soil erosion and the problems relating to sedimentation of Illinois lakes.

Because the requirements reflected in this Phase I plan represent a straightforward application of existing Pollution Control Board Regulations on a case-by-case basis, this Phase I plan will be more useful as a reference document than as an exposition of any new policies. While planning under Phase II could modify some of these requirements substantially, the actions and timetables prescribed here should be viewed as legally binding and therefore required for immediate implementation. It would be unwise to assume for any given case that these point source controls will prove unnecessary.

State Authority for Planning

Section 4 of the Illinois Environmental Protection Act as amended (Ill. Rev. Stat., Chap. 111 1/2, Sec. 1001 et seq.) assigns responsibility for defining the state's Continuing Planning Process and for conduct of federally-mandated water quality planning to the Illinois Environmental Protection Agency. Certain functions such as setting of water quality standards and granting of variances have been assigned to the Pollution Control Board, however, and the authority of IEPA is limited by these assignments of specific planning-related functions to the Board.

USEPA regulations require the Governor to designate a single state agency to be responsible for the conduct and coordination of the required planning under Sections 303(e) and 208 of P.L. 92-500. Accordingly, IEPA was so designated on February 26, 1976 by the Governor.

CHAPTER II

OVERVIEW AND RECOMMENDATIONS

Analyses have been made of the water quality of the streams in this basin with a view to determine the violations of the Illinois Water Quality Standards, the probable or possible causes of the violations and the violations that will remain after point source controls are operational. Phase II, planning performed between July 1, 1976 and November 1, 1978, of the water quality management plan will determine the measures necessary to achieve the water quality goals required by the Illinois Environmental Protection Act and the Federal Water Pollution Control Act Amendments of 1972.

Test results of stream water samples obtained by IEPA during 1975 were used to identify the parameters violated at each of the water quality sampling stations in the basin. Information used to determine the probable causes of the water quality violations consisted primarily of the results of effluent sample tests made by IEPA during the year; self-monitoring of pollutant discharges for which National Pollutant Discharge Elimination System (NPDES) permits have been issued; permitted coal mines, feedlots, landfills, and water treatment plant waste discharges which have permits; other known point sources; precipitation and stream flow records; and pertinent reports and sampling studies by others which identify pollution sources.

The 1977 Water Quality Standards

The Illinois water quality standards are contained in Chapter 3 of the IPCB Regulations - Part 2. The entire Part 2 is included below for clarity in confirming the 1977 Water Quality Standards.

Best Management Practices, NPDES permit limits and monitoring programs, waste load allocations and others to be defined will be predicated on the use of these standards.

PART II: WATER QUALITY STANDARDS (IPCB Regulations, Chapter 3)

This part of the rules and regulations concerning water pollution describes the water quality standards that must be met to maintain the specified beneficial uses. References to STORET numbers identify the specific parameter as defined in the STORET system Handbook published by the Federal Environmental Protection Agency.

201 Mixing Zones

(a) In the application of any of the rules and regulations in this Chapter, whenever a water quality standard is more restrictive than its corresponding effluent standard then an opportunity shall be allowed for the mixture of an effluent with its receiving waters. Water quality standards must be met at every point outside of the mixing zone. The size of the mixing zone cannot be uniformly prescribed. The governing principle is that the proportion of any body of water or segment thereof within mixing zones must be quite small if the water quality standards are to have any meaning. This principle shall be applied on a case-by-case basis to ensure that neither any individual source nor the aggregate of sources shall cause excessive zones to exceed the standards. The water quality standards must be met in the bulk of the body of water, and no body of water may be used totally as a mixing zone for a single outfall or combination of outfalls. Moreover, except as otherwise provided in this Chapter, no single mixing zone shall exceed the area of a circle with a radius of 600 feet. Single sources of effluents which have more than one outfall shall be limited to a total mixing area no larger than that allowable if a single outfall were used.

In determining the size of the mixing zone for any discharge, the following must be considered:

1. The character of the body of water,

2. the present and anticipated future use of the body of water,

3. the present and anticipated water quality of the body of water,

4. the effect of the discharge on the present and anticipated future water quality,

5. the dilution ratio, and

6. the nature of the contaminant.

(b) In addition to the above, the mixing zone shall be so designed as to assure a reasonable zone of passage for aquatic life in which the water quality standards are met. The mixing zone shall not intersect any area of any such waters in such a manner that the maintenance of aquatic life in the body of water as a whole would be adversely affected, nor shall any mixing zone contain more than 25% of the cross-sectional area or volume of flow of a stream except for those streams where the dilution ratio is less than 3:1.

202 Stream Flows

Except as otherwise provided in this Chapter with respect to temperature, the water quality standards in this Part shall apply at all times except during periods when flows are less than the average minimum seven day low flow which occurs once in ten years.

203 General Standards

The General Standards listed below will protect the State's water for aquatic life, agricultural use, primary and secondary contact use, and most industrial uses, and ensure the aesthetic quality of the State's aquatic environment. Except as otherwise provided in this Chapter, all waters of the State shall meet the following standards:

(a) Freedom from unnatural sludge or bottom deposits, floating debris, visible oil, odor, unnatural plant or algal growth, unnatural color or turbidity, or matter in concentrations or combinations toxic or harmful to human, animal, plant or aquatic life of other than natural origin.

(b) pH (STORET number - 00400) shall be within the range of 6.5 to 9.0 except for natural causes.

(c) Phosphorus (STORET number - 00665): Phosphorus as P shall not exceed 0.05 mg/l in any reservoir or lake, or in any stream at the point where it enters any reservoir or lake.

(d) Dissolved oxygen (STORET number - 00300) shall not be less than 6.0 mg/l during at least 16 hours of any 24 hour period, nor less than 5.0 mg/l at any time.

(e) Radioactivity:

(1) Gross beta (STORET number -03501) concentration shall not exceed 100 pico curies per liter (pCi/l).

(2) Concentrations of radium 226 (STORET number - 09501) and strontium 90 (STORET number - 13501) shall not exceed 1 and 2 pico curies per liter respectively.

(f) The following levels of chemical constituents shall not be exceeded:

CONSTITUENT	STORET NUMBER	CONCEN-TRATION (mg/l)
Ammonia Nitrogen (as N)	00610	1.5
Arsenic (total)	01000	1.0
Barium (total)	01005	5.0
Boron (total)	01020	1.0
Cadmium (total)	01025	0.05
Chloride	00940	500.
Chromium (total hexavalent)	01032	0.05
Chromium (total trivalent)	01033	1.0
Copper (total)	01040	0.02
Cyanide	00720	0.025
Fluoride	00950	1.4
Iron (total)	01045	1.0
Lead (total)	01049	0.1
Manganese (total)	01055	1.0
Mercury (total)	71900	0.0005
Nickel (total)	01065	1.0
Phenols	32730	0.1
Selenium (total)	01145	1.0
Silver (total)	01075	0.005
Sulfate	00945	500.
Total Dissolved Solids	00515	1000.
Zinc	01090	1.0

(g) Based on a minimum of five samples taken over not more than a 30-day period, fecal coliforms (STORET number - 31616) shall not exceed a geometric mean of 200 per 100 ml, nor shall more than 10% of the samples during any 30-day period, exceed 400 per 100 ml.

(h) Any substance toxic to aquatic life shall not exceed one-tenth of the 48-hour median tolerance limit (48-hr. TLm) for native fish or essential fish food organisms.

(i) Temperature (STORET number (F^o) 00011 and (C^o) 00010):

(1) There shall be no abnormal temperature changes that may adversely affect aquatic life unless caused by natural conditions.

(2) The normal daily and seasonal temperature fluctuations that existed before the addition of heat due to other than natural causes shall be maintained.

(3) The maximum temperature rise above natural temperatures shall not exceed 5° F.

(4) In addition, the water temperature at representative locations in the main river shall not exceed the maximum limits in the following table during more than one percent of the hours in the 12-month period ending with any month. Moreover, at no time shall the water temperature at such locations exceed the maximum limits in the following table by more than 3° F (with respect to the lower Des Plaines River from the I-55 Bridge to its confluence with the Kankakee River four percent of the hours by more than 5° F.).

	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEPT.	OCT.	NOV.	DEC.
Mississippi River (Wisc. Border to Iowa Border) (°F)	45°	45°	57°	68°	78°	85°	86°	86°	85°	75°	65°	52°
Mississippi River (Iowa Border to Alton Lock and Dam) (°F)	45°	45°	57°	68°	78°	86°	88°	88°	86°	75°	65°	52°
Mississippi River (So. of Alton Lock & Dam) (°F)	50°	50°	60°	70°	80°	87°	89°	89°	87°	78°	70°	57°
Ohio River (°F)	50°	50°	60°	70°	80°	87°	89°	89°	87°	78°	70°	57°
Wabash River & its inter-state tribu-taries (°F)	50°	50°	60°	70°	80°	90°	90°	90°	90°	78°	70°	57°
Lower Des Plaines River from the I-55 Bridge to its confluence with the Kankakee River (°F)	60°	60°	70°	77°	85°	90°	90°	90°	90°	90°	76°	70°
Other Waters (°F)	60°	60°	60°	90°	90°	90°	90°	90°	90°	90°	90°	60°

Main River temperatures are temperatures of those portions of the river essentially similar to and following the same thermal regime as the temperatures of the main flow of the river.

(5) The owner or operator of a source of heated effluent which discharges 0.5 billion British thermal units per hour or more shall demonstrate in a hearing before this Board not less than 5 nor more than 6 years after the effective date of these regulations or, in the case of new sources, after the commencement of operation, that discharges from that source have not caused and cannot be reasonably expected to cause significant ecological damage to the receiving waters. If such proof is not made to the satisfaction of the Board appropriate corrective measures shall be ordered to be taken within a reasonable time as determined by the Board.

(6) Permits for heated effluent discharges, whether issued by the Board or the Environmental Protection Agency, shall be subject to revision in the event that reasonable future development creates a need for reallocation of the assimilative capacity of the receiving stream as defined in the regulation above.

(7) The owner or operator of a source of heated effluent shall maintain such records and conduct such studies of the effluents from such source and of their effects as may be required by the Environmental Protection Agency or in any permit granted under the Environmental Protection Act.

(8) Appropriate corrective measures will be required if, upon complaint filed in accordance with Board rules, it is found at any time that any heated effluent causes significant ecological damage to the receiving stream.

(9) The preceding temperature provisions regarding the Lower Des Plaines River from the I-55 Bridge to its confluence with the Kankakee River shall be null and void after July 1, 1978.

(10) All effluents to an artificial cooling lake must comply with the applicable provisions of the

thermal water quality standards as set forth in Rule 203(i), except when all of the following requirements are met:

(aa) All discharges from the artificial cooling lake to other waters of the State comply with the applicable provisions of Rule 203(i)(1-4).

(bb) The heated effluent discharged to the artificial cooling lake complies with all other applicable provisions of this Chapter, except Rule 203(i)(1-4).

(cc) At a regulatory hearing, the discharger shall satisfactorily demonstrate to the Board that the artificial cooling lake receiving the heated effluent will be environmentally acceptable, and within the intent of the Act, including, but not limited to:

(1) provision of conditions capable of supporting shellfish, fish, and wildlife, and recreational uses consistent with good management practices, and

(2) control of the thermal component of the discharger's effluent by a technologically feasible and economically reasonable method.

(dd) The required showing in Rule 203(i)(10)(cc) may take the form of an acceptable final environmental impact statement or pertinent provisions of environmental assessments used in the preparation of the final environmental impact statement, or may take the form of a showing pursuant to §316(a) of the FWPCA, which addresses the requirements of Rule 203(i)(10)(cc).

(ee) If an adequate showing as provided in Rule 203(i) (10) (cc) is found, the Board shall promulgate specific thermal standards to be applied to the discharge to that artificial cooling lake.

(11) Exceptions to Rule 203(i):

(aa) Lake Clinton:
The thermal discharge to Lake Clinton shall meet the following standards and conditions:

(1) The effluent temperature shall not exceed 96° F.

(2) All conditions adopted by Board Order in PCB 75-31 (July 31, 1975).

203.1 Exceptions to Rule 203

(a) The fluoride standard of Rule 203(f) shall not apply to waters of the State which:

(1) receive effluent from the mines and mills of the fluorspar mining and concentrating industry, and

(2) have been designated by the Illinois State Water Survey as streams which once in ten years have an average minimum seven day low flow of zero.

Such waters shall meet the following standard with regard to fluoride:

Constituent	Storet Number	Concentration (mg/l)
Fluoride	00950	5

204 Public and Food Processing Water Supply

In addition to the General Standards, waters designated in Part III of this Chapter for public and food processing water supply shall meet the following standards at any point at which water is withdrawn for treatment and distribution as a potable supply or for food processing except that such standards, including the General Standards, may be exceeded if such occurrence results from the application of an algicide in accordance with the terms of an Algicide Permit issued by the Agency under Chapter VI, Rule 203 and 204(d) of these Rules and Regulations.

(a) Water shall be of such quality that with treatment consisting of coagulation, sedimentation, filtration, storage and chlorination, or other equivalent treatment processes, the treated water shall meet in all respects the requirements of Table I, Rule 304, of Chapter 6 of these Rules and Regulations.

(b) The following levels of chemical constituents shall not be exceeded:

CONSTITUENT	STORET NUMBER	CONCENTRATION (mg/l)
Arsenic (total)	01000	0.1
Barium (total)	01005	1.0
Cadmium (total)	01025	0.010
Chloride	00940	250.
Chromium	01034	0.05
Foaming Agents	38260	0.5
Iron (total)	01045	0.3
Lead (total)	01049	0.05
Manganese (total)	01055	0.05
Nitrate-Nitrogen	00620	10.
Nitrite-Nitrogen	00615	1.
Oil (hexane-solubles or equivalent)	00550	0.1
Organics		
Carbon Adsorbable		
Carbon Chloroform Extract (CCE_m)	32005	0.7*
Pesticides		
Chlorinated Hydrocarbon Insecticides		
Aldrin	39330	0.001
Chlordane	39350	0.003
DDT	39370	0.05
Dieldrin	39380	0.001
Endrin	39390	0.0005
Heptachlor	39410	0.0001
Heptachlor Epoxide	39420	0.0001
Lindane	39782	0.005
Methoxychlor	39480	0.1
Toxaphene	39400	0.005
Organophosphate Insecticides		
Parathion	39540	0.1
Chlorophenoxy Herbicides		
2,4-Dichlorophenoxy-Acetic acid (2,4-D)	39730	0.02
2, 4, 5-Trichlorophenoxy-proprionic acid (2,4,5-TP or Silvex)	39760	0.01
Phenols	32730	0.001
Selenium (total)	01145	0.01
Sulfates	00945	250.
Total Dissolved Solids	00515	500.

*The subscript "m" is used to denote that this parameter is determined by using an improved miniaturized sampler and extraction technique.

(c) Other contaminants that will not be adequately reduced by the treatment processes noted in paragraph (a) of this Rule shall not be present in concentrations hazardous to human health.

205 Secondary Contact and Indigenous Aquatic Life Standards

Waters designated in Part III of this Chapter for Restricted Use shall meet the following standards:

(a) Freedom from unnatural sludge or bottom deposits, floating debris, visible oil, odor, unnatural plant or algal growth, or unnatural color or turbidity.

(b) pH (STORET number - 00400) shall be within the range of 6.0 to 9.0 except for natural causes.

(c) Dissolved oxygen (STORET number - 00300) shall not be less than 3.0 mg/l during at least 16 hours in any 24-hour period, nor less than 2.0 mg/l at any time, and after December 31, 1977 shall not be less than 4.0 mg/l at any time.

(d) Based on a minimum of five samples taken over not more than a 30-day period, fecal coliforms (STORET number - 31616) shall not exceed a geometric mean of 1,000 per 100 ml, nor shall more than 10% of the samples during any 30-day period exceed 2,000 per 100 ml.

(e) Concentrations of other substances shall not exceed the applicable effluent standards prescribed in Part IV of this Chapter.

(f) Temperature (STORET numbers - (^{o}F) 00011 and (^{o}C) 00010) shall not exceed 93°F (34°C) more than 5% of the time, or 100°F (37.8^{o}C) at any time.

206 Lake Michigan

The waters of Lake Michigan shall meet the following standards in addition to the General and Public and Food Processing Water Supply Standards:

(a) Dissolved oxygen (STORET number - 00300) shall not be less than 90% of saturation except due to natural causes.

(b) pH (STORET number - 00400) shall be within the range of 7.0 to 9.0 except for natural causes.

(c) The following levels of chemical constituents shall not be exceeded:

CONSTITUENT	STORET NUMBER	CONCEN-TRATION (mg/l)
Ammonia Nitrogen	00610	0.02
Chloride	00940	12.0
Sulfate	00945	24.0
Phosphorus (as P)	00665	0.007
Total Solids (Dissolved)	00515	180.0

(d) Based on a minimum of five samples taken over not more than a 30-day period, fecal coliforms (STORET number - 31616) shall not exceed a geometric mean of 20 per 100 ml.

(e) Temperature (STORET numbers - (^{o}F) 00011 and (^{o}C) 00010):

(1) (A) All sources of heated effluents in existence as of January 1, 1971 shall meet the following restrictions outside of a mixing zone which shall be no greater than a circle with a radius of 1000 feet or an equal fixed area of simple form.

(i) There shall be no abnormal temperature changes that may affect aquatic life.

(ii) The normal daily and seasonal temperature fluctuations that existed before the addition of heat shall be maintained.

(iii) The maximum temperature rise at any time above natural temperatures shall not exceed 3°F. In addition, the water temperature shall not exceed the maximum limits (^{o}F) indicated in the following table:

JAN.	45	JUL.	80
FEB.	45	AUG.	80
MAR.	45	SEPT.	80
APR.	55	OCT.	65
MAY	60	NOV.	60
JUN.	70	DEC.	50

(B) The owner or operator of a source of heated effluent which discharges 0.5 billion British Thermal Units per hour (BTU/HR.) or more shall demonstrate in a hearing before this Board not less than five nor more than six years after the adoption of this regulation, that discharges from that source have not caused and cannot be reasonably expected in future to cause significant ecological damage to the Lake. If such proof is not made to the satisfaction of the Board, backfitting of alternative cooling devices shall be accomplished within a reasonable time as determined by the Board.

(C) The owner or operator of a source of heated effluent shall maintain such records and conduct such studies of the effluents from such source and of their effects as may be required by the Environmental Protection Agency or in any permit granted under the Environmental Protection Act.

(D) Backfitting of alternative cooling facilities will be required if, upon complaint filed in accordance with Board rules, it is found at any time that any heated effluent causes significant ecological damage to the Lake.

(2) Any effluent source under construction as of January 1, 1971, but not in operation, shall meet all the requirements of Section 1 of this regulation and in addition shall meet the following restrictions:

(A) Neither the bottom, the shore, the hypolimnion, nor the thermocline shall be affected by any heated effluent.

(B) No heated effluent shall affect spawning grounds or fish migration routes.

(C) Discharge structures shall be so designed as to maximize short-term mixing and thus to reduce the area significantly raised in temperature.

(D) No discharge shall exceed ambient temperatures by more than 20° F.

(E) Heated effluents from more than one source shall not interact.

(F) All reasonable steps shall be taken to reduce the number of organisms drawn into or against the intakes.

(G) Cleaning of condensers shall be accomplished by mechanical devices. If chemicals must be used to supplement mechanical devices, the concentration at the point of discharge shall not exceed the 96-hour TLm for fresh water organisms.

(3) (A) No source of heated effluent which was not in operation or under construction as of January 1, 1971 shall discharge more than a daily average of 0.1 billion BTU/Hr.

(B) Sources of heated effluents which discharge less than a daily average of 0.1 billion BTU/Hr. not in operation or under construction as of January 1, 1971 shall meet all requirements of Sections 1 and 2 of this regulation.

207 Underground Waters

The underground waters of Illinois which are a present or potential source of water for public or food processing supply shall meet the General and Public and Food Processing Water Supply Standards except due to natural causes.

208 Nondegradation

Waters whose existing quality is better than the established standards at the date of their adoption will be maintained in their present high quality. Such waters will not be lowered in quality unless and until it is affirmatively demonstrated that such change will not interfere with or become injurious to any appropriate beneficial uses made of, or presently possible in such waters and that such change is justifiable as a result of necessary economic or social development.

The 1983 Water Quality Standards

The Federal Water Pollution Control Amendments Act of 1972 (P.L. 92-500) indicated as one of the national goals that, wherever attainable, water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water should be achieved by July 1, 1983.

For the present, in Illinois, the current water quality standards listed earlier are considered to be consistent with the 1983 standards.

It will be the primary objective of the Illinois Water Quality Management Planning effort to achieve these standards, wherever possible, by July 1, 1983. However during the planning process, all aspects of these standards will be re-evaluated. By November 1, 1978, the 1983 standards will be clearly a target for our water quality programs.

Analysis of 1975 Water Quality Data

Monthly grab samples obtained at each of the IEPA water quality network stations were analyzed for temperature, dissolved oxygen, pH, ammonia nitrogen, nitrite-nitrate nitrogen, total phosphorus, and fecal coliform. Quarterly (one fourth of the monthly samples), the samples are also analyzed for arsenic, barium, boron, cadmium, hexavalent chromium, trivalent chromium, copper, cyanide, total iron, lead, manganese, mercury, nickel, selenium, silver, zinc, fluoride, chloride, sulfate, phenol, MBAS, and total dissolved solids.

IEPA laboratories perform tests upon unfiltered water samples for most parameters. Results of these tests are not comparable to tests performed by others when filtered samples are used. Many of the constituents, such as heavy metals, adhere to particulate matter to the extent that filtered samples may indicate little or no concentration of a constituent while unfiltered samples indicate violations of the standards.

Table 1 shows the violations of the water quality standards found during the 1975 calendar year. The sampling stations are arranged in upstream to downstream hydrologic order for each segment in the basin.

Water Quality Indices (WQI)

Using four water quality parameters, dissolved oxygen, fecal coliform, total dissolved solids, and ammonia-nitrogen, water quality indices have been developed by the IEPA staff for each of the WQSS. The values of WQI have been compared with the findings and experiences of the IEPA field engineers and biological staffs. Based upon these values of the WQI, the WQSS have been assigned a rating of Good or Balanced (A), Average or Unbalanced (B), Fair or Semi-polluted (C), and Poor or Polluted (D). A detailed discussion about the WQI is presented in Appendix C. Please note the precaution listed in the segment analyses.

TABLE 1

BIG MUDDY RIVER BASIN

SUMMARY OF WATER QUALITY STANDARDS VIOLATIONS IN 1975

Segment	Sampling Station	Parameters Violated in 1975
A-01	NH-05	pH, fecal coliform, ammonia nitrogen, total iron, manganese, dissolved oxygen, mercury
A-02	NG-02	pH, fecal coliform, total iron, dissolved oxygen, manganese
	NGA-01	fecal coliform, manganese, sulfate
	NG-01	fecal coliform, manganese, sulfate, mercury, pH, total iron
A-03	NE-04	fecal coliform, dissolved oxygen, total iron, manganese
	NEB-01	fecal coliform, dissolved oxygen, total iron, manganese
	NE-03	fecal coliform, total iron, manganese, TDS/EC, sulfate
A-04	NC-05	fecal coliform, dissolved oxygen, total iron, manganese
	NC-03	fecal coliform, total iron, sulfate
	NCD-02	fecal coliform, dissolved oxygen, total iron, copper
	NCD-01	fecal coliform, total iron, sulfate
	NCB-01	fecal coliform, total iron, copper, manganese
	NC-02	fecal coliform, total iron, dissolved oxygen, manganese, copper
A-05	ND-04	fecal coliform, total iron, manganese, sulfate, pH, TDS/EC, total phosphorus
	ND-03	fecal coliform, dissolved oxygen, ammonia nitrogen, total phosphorus, manganese, total iron
A-06	ND-02	pH, total phosphorus
A-07	ND-01	fecal coliform, total iron, pH, silver, dissolved oxygen, manganese
A-08	NB-01	total phosphorus
A-09	no WQSS	
B-01	N-08	fecal coliform, dissolved oxygen, manganese, total iron, total phosphorus

TABLE 1 (Contd.)

BIG MUDDY RIVER BASIN

SUMMARY OF WATER QUALITY STANDARDS VIOLATIONS IN 1975

Segment	Sampling Station	Parameters Violated in 1975
B-01 cont.	NK-01	fecal coliform, dissolved oxygen, chloride, total iron, manganese,
		total phosphorus
	NJ-07	fecal coliform, ammonia nitrogen, total iron, dissolved oxygen, boron, copper,
		total phosphorus
B-02	N-06	fecal coliform, dissolved oxygen
	N-04	fecal coliform, manganese, cadmium, total iron, mercury, pH, copper
	NF-01	fecal coliform, dissolved oxygen, pH, total iron, manganese
B-03	N-07	fecal coliform, total iron, pH
	N-02	fecal coliform, total iron, pH
	N-01	fecal coliform, total iron

A comparison of the numerical values which determine the letter classifications was made for 538 stations for the years of 1972 and 1975. Ninety-three stations had improved, 50 had deteriorated, and 379 had remained the same. Sixteen stations lacked sufficient data for comparison. Improvement is attributed to the early results of the current program for upgrading treatment facilities which handle oxygen demanding wastes and those with fecal coliform, primarily municipal sewage treatment plants.

It can be seen from Table 2 that eleven water quality sampling stations in the basin remained in the same condition in 1972 and 1975. Fifteen water quality sampling stations in the basin showed stream water quality improvement in 1975 over 1972. Of these fifteen water quality sampling stations; three (NG-02, NGA-01, and NG-01) are in Segment A-02; three (NE-04, NEB-01, and NE-03) are in Segment A-03; four (NC-03, NCD-01, NCB-01 and NC-02) are in Segment A-04; one (ND-04) is in Segment A-05; one (ND-01) is in Segment A-07; two (N-08, and NJ-07) are in Segment B-01; and one (NF-01) is in Segment B-02.

One water quality sampling station, NC-05 in Segment A-04, in the basin showed stream water quality deterioration in 1975 over 1972.

TABLE 2

BIG MUDDY RIVER BASIN
SUMMARY OF WATER QUALITY INDICES
FOR
1971 to 1975

Segment	Sampling Station	Water Quality Index				
		1971	1972	1973	1974	1975
A-01	NH-05	C	B	B	B	B
A-02	NG-02	-	B	B	A	A
	NGA-01	D	B	B	B	A
	NG-01	D	B	B	A	A
A-03	NE-04	-	B	A	B	A
	NEB-01	-	C	C	B	A
	NE-03	A	B	A	A	A
A-04	NC-05	D	A	B	B	B
	NC-03	D	B	A	B	A
	NCD-02	-	B	A	B	B
	NCD-01	D	B	B	B	A
	NCB-01	-	B	A	A	A
	NC-02	C	B	B	B	A
A-05	ND-04	-	B	B	A	A
	ND-03	-	C	C	B	C
A-06	ND-02	-	A	A	A	A
A-07	ND-01	-	B	B	A	A
A-08	NB-01	-	-	-	A	A
A-09	No WQSS					
B-01	N-08	-	B	A	A	A
	NK-01	-	A	A	B	A

Table 2 (Contd.)

BIG MUDDY RIVER BASIN

SUMMARY OF WATER QUALITY INDICES
FOR
1971 to 1975

Segment	Sampling Station	Water Quality Index				
		1971	1972	1973	1974	1975
	NJ-07	-	C	B	B	B
B-02	N-06	B	A	A	A	A
	N-04	B	A	A	A	A
	NF-01	-	B	B	B	A
B-03	N-07	-	A	A	A	A
	N-02	A	A	A	B	A
	N-01	A	A	A	A	A

Other Water Quality Data

Biological Surveys-As explained above in connection with the Water Quality Index, the Agency makes biological surveys at selected locations to determine the species and populations of bottom dwelling organisms. The results of these surveys primarily indicate the effects of ordinary municipal and industrial waste discharges upon the streams and the downstream extent of those effects. Several such surveys have been made in the Big Muddy River Basin; they are summarized below.

Middle Fork of the Big Muddy River near Freeman Coal Company Orient #5 (A-01) - 1973

Water samples at six locations along Middle Fork Creek and Ewing Creek, a tributary to the Middle Fork, were collected to determine the reasons for a fish kill. Analyses of the water samples revealed a low pH to be the cause for that fish kill.

Middle Fork of the Big Muddy River and a tributary Big Ditch near West Frankfort (A-01) - 1972

The survey was performed to determine the effects of the West Frankfort sewage treatment plant on Big Ditch and Middle Fork of the Big Muddy River. Big Ditch, approximately 100 feet upstream and one-half mile downstream from the West Frankfort sewage treatment plant discharge, was semi-polluted and polluted, respectively.

Middle Fork of the Big Muddy River, approximately 100 feet upstream and 1.5 miles downstream from its confluence with Big Ditch (or two miles downstream from the West Frankfort sewage treatment plant), was balanced and polluted, respectively.

Reese Creek near DuQuoin (A-03) - 1971

Reese Creek, approximately 50 yards upstream from the DuQuoin sewage treatment plant, was unbalanced. However, Reese Creek, along the reach approximately three miles downstream from the DuQuoin sewage treatment plant, was polluted.

Blackshop Creek, along the reach approximately 50 yards upstream and 50 feet downstream of the Hays Fair Acres Lagoon, was polluted.

Reese Creek and an unnamed tributary near DuQuoin (A-03) - 1975

The survey was conducted to determine the effects of the DuQuoin sewage treatment plant on Reese Creek and an unnamed tributary. The unnamed tributary to Reese Creek, along the reach approximately 0.25 mile upstream and 200 yards downstream from the DuQuoin sewage treatment plant, was found to vary from unbalanced to polluted.

Reese Creek, along the reach approximately one and one-eighth mile upstream from its confluence with the unnamed tributary and three and one-half miles downstream from the DuQuoin sewage treatment plant, was found to vary from semi-polluted to unbalanced.

Little Muddy River near Ashley (A-03) - 1972

The purpose of the survey was to determine the condition of stream environments downstream from the Ashley sewage lagoons. The unnamed tributary, along the reach approximately 50 yards upstream from north and south lagoons and 100 yards downstream from the confluence of two tributaries, was found to vary from polluted to balanced.

Little Muddy River, along the reach approximately four miles downstream from the Ashley Lagoons, was found to vary from polluted to unbalanced.

Little Muddy River, along the reach approximately one and one-half miles upstream from its confluence with waste-bearing tributary, was found to vary from semi-polluted to balanced.

Pipestone Creek near Cutler (A-04) - 1975

The purpose of the survey was to determine the condition of stream environments in the vicinity of the Captain Mine. An unnamed tributary to the Pipestone Creek, along the reach approximately 60 yards upstream from a north-south mine road and 200 yards downstream from the Cutler Lagoon, was found to be semi-polluted.

Pipestone Creek, along the reach approximately 6.8 miles downstream from the Captain Mine main pit, was found to vary from semi-polluted to unbalanced.

An unnamed tributary to the Galum Creek, approximately one-half mile downstream from the Captain Mine Denmark Pit, was semi-polluted.

Little Crab Orchard Creek (A-05) - 1973

The purpose of the survey was to determine the effects of mine drainage in the Crab Orchard area on Little Crab Orchard Creek. Water samples were collected at five locations. At each of these locations, the water was slightly turbid and contained an orange-colored floc. The stream bed generally contained a heavy concentration of orange deposits. The findings were attributable to drainage from mines in the area.

Sycamore Creek (A-07) - 1971

Sycamore Creek in Makanda township and its confluence with Drury Creek, was found to vary from polluted to unbalanced.

Drury Creek, in Carbondale township, at Giant City Road and 100 yards downstream from its confluence with Sycamore Creek, was found to vary from polluted to balanced.

Piles Fork (A-07) - 1973

The purpose of the survey was to determine the condition of stream environments downstream from the water and sewage treatment plants for the city of Carbondale. Piles Fork, along the reach approximately 100 yards upstream and one and one-quarter miles downstream from the water treatment plant, was found to vary from polluted to balanced.

Piles Fork, along the reach approximately one mile downstream from the sewage treatment plant discharge, was found to vary from semi-polluted to polluted.

Hurricane Creek near Herrin (B-02) - 1971

Hurricane Creek, approximately one-half mile downstream from the Dura-Container plant, was classified as polluted.

USEPA Lake Eutrophication Survey (A-06, B-01) - 1973

Crab Orchard Lake, Rend Lake and Old Ben Mine Reservoir were included in the survey from the Big Muddy River Basin. In terms of their eutrophic condition, they were ranked from the best as 8, 4 and 22, respectively.

Water Quality Violations Which Will Remain After Point Source Controls are Operational

Control of point sources, including combined sewer overflows, will prevent or reduce the extent of violations of most parameters in the current water quality standards. Because of agricultural runoff, urban and industrial storm drainage, construction site runoff and mining, violations will remain at many sampling stations for: manganese, boron, total iron, copper, mercury, pH, sulfate, total dissolved solids, phosphorus, silver, chloride, and cadmium.

Dissolved oxygen violations are also expected to occur during periods of hydrologic and climatic conditions which cause increased oxygen demands and reduce reaeration activity.

Natural conditions, which persist, will cause nutrient violations at many stations. A significant portion of the Phase II planning effort will be expended in evaluating agricultural practices so as to minimize the potential for violations at other stations.

Bottom sediments will continue to release heavy metals and other chemicals for an indefinite period and may cause violations of standards at times.

Because of the uncertainty involved with nonpoint sources, it is indicated in the narrative portion of Chapter IV of this plan that fecal coliform violations and some ammonia nitrogen violations may or may not remain after point source controls are operational.

Recommendations

At this time only general recommendations can be made. The Phase II studies for the Water Quality Management Plans will determine the necessary detailed recommendations.

1. Improved management techniques and controls need to be implemented to reduce the effects of runoff from agricultural land, construction sites, mining areas and urban centers.

2. Evaluation of existing point source controls needs to be performed to make revisions to increase the effectiveness. NPDES permits should be issued to reflect appropriate effluent limits and monitoring requirements as dictated by continuing water quality violations.

3. Additional controls and the use of more effective management techniques must be instituted to reduce the pollution potential of livestock operations.

4. Control of combined sewer overflows, elimination of sanitary sewer overflows, and the reduction of the pollution potential of storm drainage must be provided to meet water quality goals as currently expressed.

5. Segment analyses should be reviewed to determine the desirability of relocating sampling stations so that monitoring can be more effective where needed and reduced where no need is apparent.

6. Review of water quality standards must be completed to determine the need for the addition of parameters, changes in values of existing parameters, and the possible elimination of any which are of little significance. Among those which should be considered early in Phase II are: fecal coliform, total iron, total phosphorus, and copper.

7. Efforts must be continued to achieve better operation of treatment facilities and monitoring of pollutant point sources.

CHAPTER III

PHYSICAL DESCRIPTION AND IMPACT ON WATER QUALITY

Water quality is impacted by a multiplicity of factors for most of which man/people can take credit or blame as appropriate. In the Phase I planning effort of which this chapter is a part, most of the emphasis is on the impact of man/people on water quality. However, the water quality problems that will remain after the point source controls are implemented and operational are largely due to the physical characteristics and specific hydrology of the particular basin under discussion. This chapter then with the major assistance of the Illinois State Water Survey describes the physical characteristics and hydrology of the basin and their impact on the quality of water, both surface and subsurface, of the basin.

Physiographic Setting (29)

Illinois is essentially a prairie plain. It is an area of low elevation (average 600 feet) and low relief (maximum 973 feet); local relief is typically less than 200 feet. The state is located in parts of four major physiographic divisions of the United States, as defined by Fenneman (1928). More than 90 percent of the state lies within the Central Lowland, all of which was glaciated except for the Wisconsin Driftless section in extreme northwestern Illinois. The remaining parts, along the southern and western borders, are included within one or another of the three areas known as the Ozark Plateaus, the Interior Low Plateaus, and the Coastal Plain Provinces (see Figure 1).

Leighton, Ekblaw, and Horberg (1943) subdivided the state into eight physiographic sections according to the following physiographic criteria: topography of the bedrock surface; extent of the several glaciations; differences in glacial morphology; differences in age of the uppermost drift; height of the glacial plain above main lines of drainage; glaciofluvial aggradation of basin areas; and glaciolacustrine action.

The Central Lowland province, is subdivided into three sections: the Great Lakes Section; the Wisconsin Driftless Section; and the Till Plains Section.

The Great Lakes Section is located in the northeastern part of the state. It is characterized by lake plain in the eastern part and morainic features in the western part. The lake plain is a flat surface, underlain largely by till, which slopes gently toward Lake Michigan. The glacial morainic topography is complicated by a variety of elongated hills, mounds, basins, sags, and valleys. Postglacial erosion has been slight and is restricted largely to valleys along the Fox and Des Plaines Rivers.

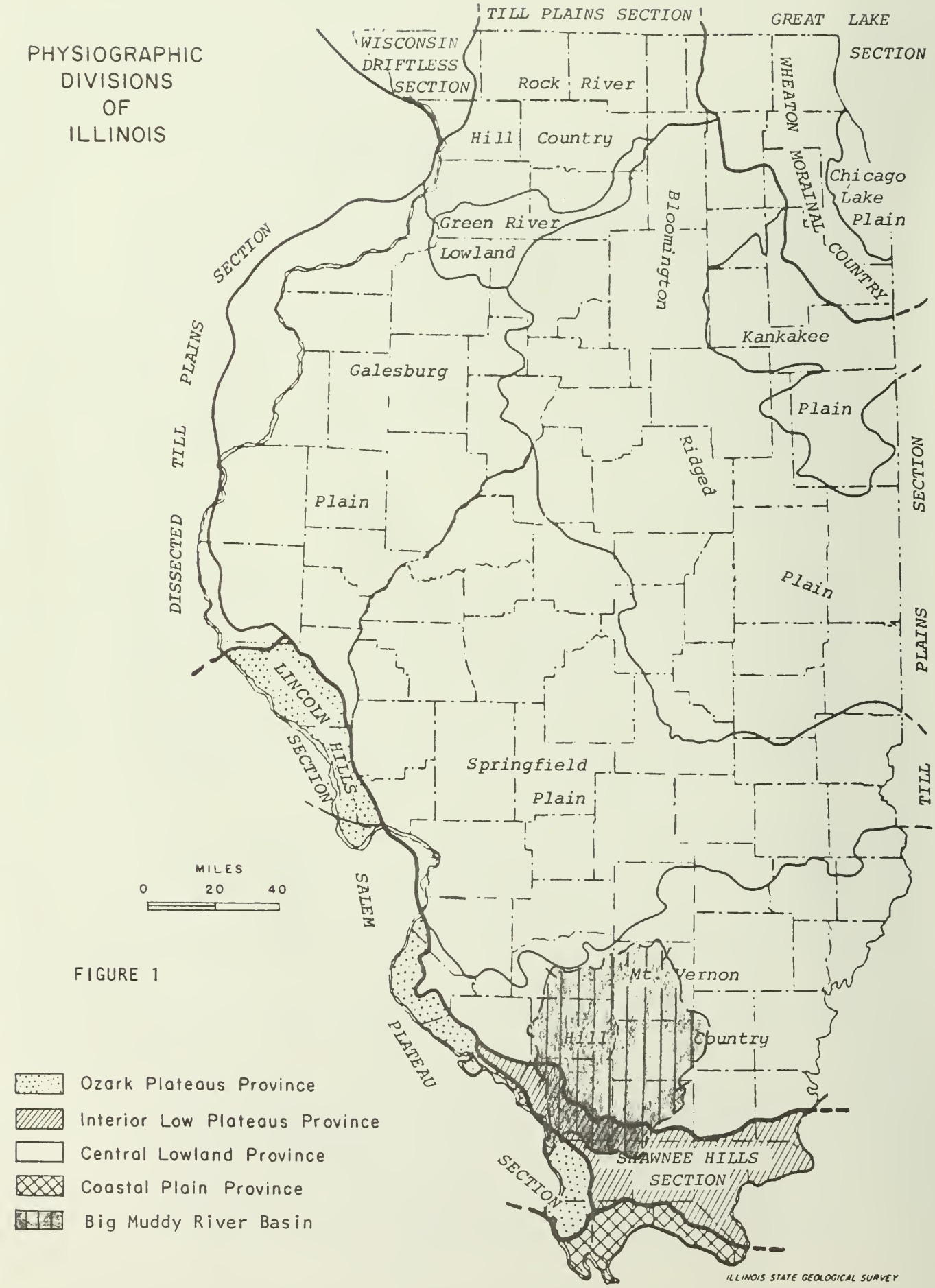

PHYSIOGRAPHIC DIVISIONS OF ILLINOIS
TILL PLAINS SECTION
GREAT LAKE SECTION
WISCONSIN DRIFTLESS SECTION
Rock River Hill Country
WHEATON MORAINAL COUNTRY
Chicago Lake Plain
Green River Lowland
Bloomington Ridged Plain
Kankakee Plain
Galesburg Plain
DISSECTED TILL PLAINS SECTION
LINCOLN HILLS SECTION
Springfield Plain
SALEM PLATEAU SECTION
Mt. Vernon Hill Country
SHAWNEE HILLS SECTION
MILES
0 20 40
Ozark Plateaus Province
Interior Low Plateaus Province
Central Lowland Province
Coastal Plain Province
Big Muddy River Basin
ILLINOIS STATE GEOLOGICAL SURVEY

FIGURE 1

The Wisconsin Driftless Section, located in northwestern Illinois, has apparently not been glaciated. Because of this, its topography reflects the character of the underlying bedrock. The area is dissected by a number of dendritic drainage systems tributary to the Mississippi River. Small caves and solution channels provide considerable underground drainage, but sink holes and other karst features are not conspicuous.

The Till Plains Section is the largest physiographic division in the state, covering four-fifths of Illinois. This area is characterized by broad, till plains which have poorly developed drainage. The western and southern limits of the Bloomington Ridged Plain is the most significant boundary in this section. East and north of this boundary the surficial units are Wisconsinan in age. South and west of this boundary the surficial units are of the older Illinoian age (see Figure 2). Physiographic contrasts (such as degree of drainage integration and the extent of soil development and erosional modifications of the landscapes) have developed because of these age differences.

About 90 percent of the Big Muddy River Basin is located in the physiographic subdivision termed the Mt. Vernon Hill Country of the Central Lowland Province. Most of the remaining land area, the southwestern part of the basin, is in the Shawnee Hills section of the interior Low Plateaus Province which forms the Ozark Mountains in Missouri and Arkansas. A small portion of the Big Muddy River Basin lies on the Mississippi River floodplain.

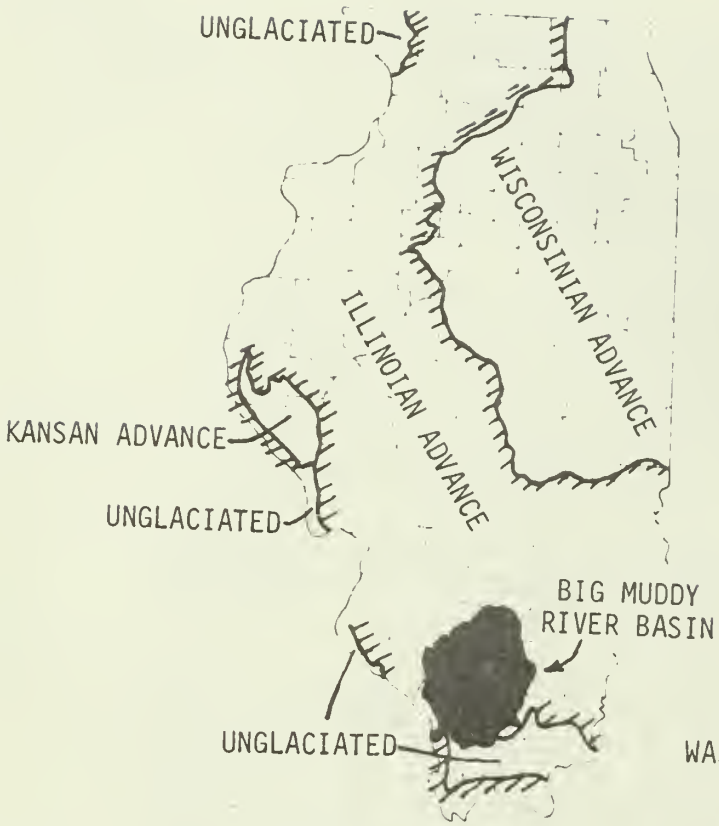
The Mount Vernon Hill Country is characterized by low rolling hills and broad alluvial valleys along the major streams. The relief in this region is not pronounced. Upland prairies are flat to moderately hilly and the valleys are shallow. The land surface is primarily controlled by bedrock which has been only slightly modified by glacial drift deposits. While the southern boundary of the Mount Vernon Hill Country lies within a few miles of the limits of glaciation, moraine ridges are essentially absent in the area.

The Shawnee Hills are south and southwest of the Mount Vernon Hill Country and provide striking contrast to that region. The Shawnee Hill section is unglaciated and characterized by rocky ridges and deep valleys. This area displays a complex, bedrock controlled topography.

In its lower 20 miles, the Big Muddy River flows on the Mississippi River floodplain. The floodplain is nearly flat except where it is broken by an outcrop of bedrock, Fountain Bluff, which rises about 400 feet above the surrounding land elevation.

FIGURE 2

GLACIAL HISTORY



(See reference 1)

Source: ISWS

LOCATION OF BIG MUDDY RIVER BASIN

The major portion of the basin is characterized by broad, flat valleys separated by gently rolling, low hills while the southern and southwestern areas are marked by rugged hills and steep valleys. The lowest reach of the Big Muddy River flows from the hilly area into the flat Mississippi River floodplain.

Climate (29)

The climate of Illinois is classified as the humid continental type. Because of a location far from any modifying influences such as oceans or mountain ranges, great variations in temperatures and precipitation occur in any given year. In general, summers are warm or hot, and winters vary from cool to cold.

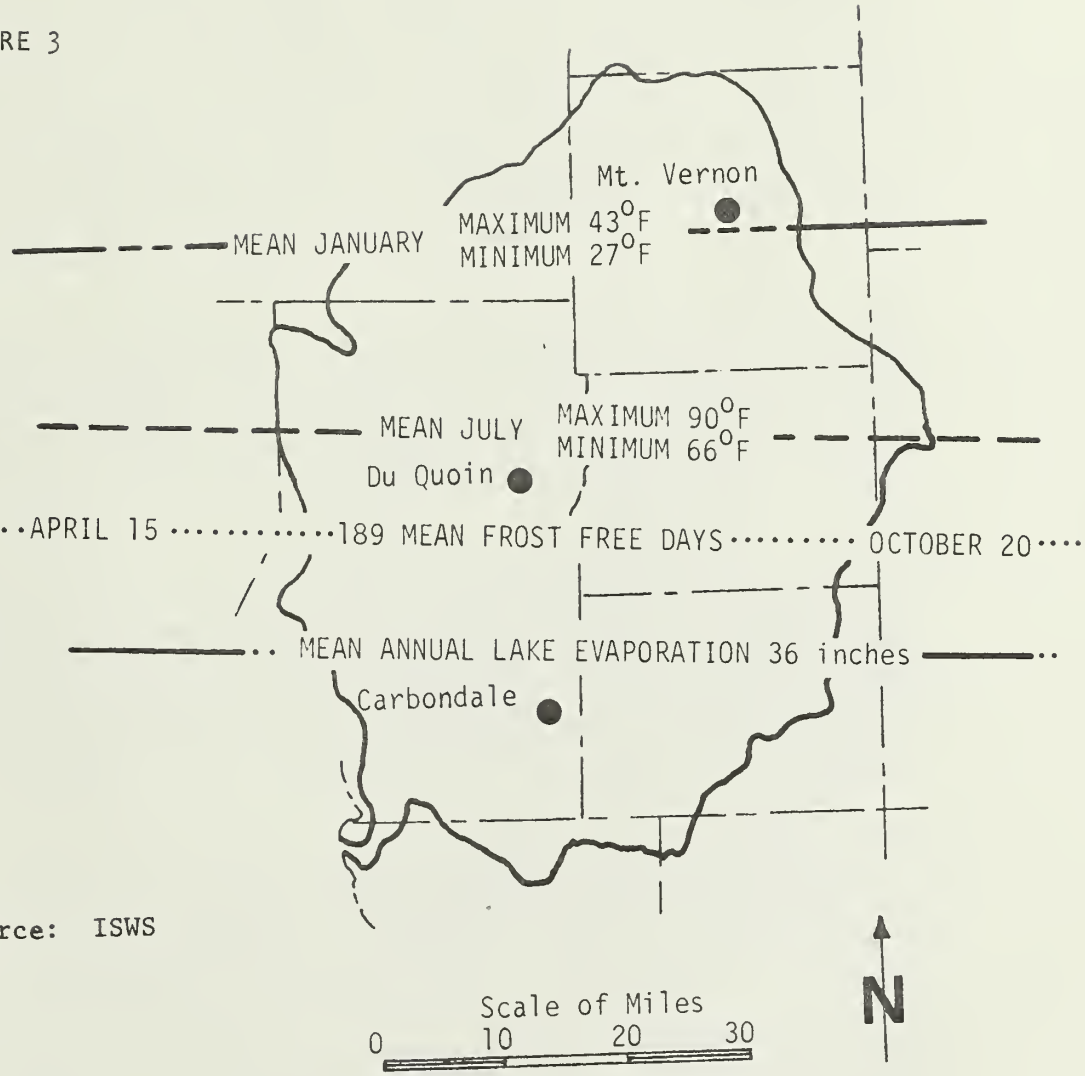
The average annual temperature ranges from about 47° F. in the north to 59° F. in the south. January, normally the coldest month has a mean temperature range from about 22° F. in the North to 36° F. in the South. Mean temperature in July, usually the hottest month, ranges from about 73° F. in the North to 80° F. in the South. During some years, however, June or August, may be warmer than July. Likewise, December or February may sometimes be colder than January (Page, 1949).

Average annual precipitation in Illinois ranges from about 32 inches in the North to 47 inches in the South. In general, the northern part of the state gets a larger percentage of its total precipitation during the growing season than does the southern part. This tends to make the annual precipitation in northern Illinois as effective for growing crops as the heavier annual amount in southern Illinois (Page, 1949).

The growing season is the period of maximum precipitation in all of Illinois except a small area in the southern part. The average length of the growing season increases from north to south. However, the Mississippi, Wabash, and Illinois River valleys appear to influence the growing season pattern by increasing the length of the season along their courses.

Climatic data for the basin are shown in Figure 3.

FIGURE 3



Source: ISWS

MEAN TEMPERATURE (°F)

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Ann
Mt. Vernon	33.4	36.3	44.3	56.1	65.8	75.3	79.0	77.8	70.5	59.3	44.8	35.7	56.5
Du Quoin	34.8	37.7	45.6	57.0	66.5	75.6	79.0	77.8	70.6	59.7	46.0	37.1	57.3
Carbondale	35.5	38.4	46.2	57.3	66.4	75.6	78.9	77.8	70.5	59.6	46.0	37.7	57.5

MEAN PRECIPITATION (In.)

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Ann
Mt. Vernon	3.27	2.63	3.77	4.46	4.36	3.97	3.26	3.83	3.46	3.09	3.55	2.84	42.49
Du Quoin	3.15	2.71	3.79	4.01	4.15	3.89	3.22	3.64	3.34	3.15	3.49	2.86	41.40
Carbondale	3.66	3.05	4.19	4.36	4.63	4.19	3.23	3.86	3.47	3.15	3.62	2.98	44.39

(See references 10, 15, and 20)

CLIMATIC DATA FOR BIG MUDDY RIVER BASIN

Geology (29)

The geologic units of Illinois fit into four major divisions: Precambrian basement rock; consolidated sedimentary bedrock; a variably thick blanket of glacial drift; and a mantle cover of loess. The Precambrian basement of Illinois is not exposed at the surface; it is everywhere covered by 2,000 to more than 13,000 feet of sedimentary strata. Where encountered in borings in and immediately adjacent to Illinois, this basement is characterized chiefly by plutonic and volcanic rocks of granitic or closely related composition. (Bradbury and Atherton, 1965).

Consolidated sedimentary rocks are found throughout the entire state. These sedimentary rocks range in age from Cambrian through Tertiary. However, except for small areas in the North and the far South they are of Paleozoic age. Dolomite dominates the Ordovician and Silurian rocks, the Mississippian rocks are dominated by limestone, and the Pennsylvanian rocks by shale and sandstone. Large deposits of mineable coal are also found in the Pennsylvanian strata.

The only extensive exposures of sedimentary rocks are limited to areas outside the glacial margin. These areas are in extreme northwestern Illinois and adjacent to the Mississippi and Ohio Rivers in southwestern and southern Illinois. Only scattered outcrops of bedrock are found within the glaciated region. These are usually limited to areas of bedrock highs or along the walls of the deeper-cut valleys.

Glacial deposits cover nearly 90 percent of the state. They consist of both well-sorted sands and gravels and unsorted till, and represent deposition during each of the four major glacial stages. Deposits of the first major glaciation, the Nebraskan, are known only from the subsurface of western Illinois. Although the second glaciation, the Kansan, covered most of the state, the only surface exposure of Kansan till is in a small area in western Illinois. Continental glaciation reached its maximum southern extent in the northern hemisphere during the subsequent Illinoian glaciation. At this time ice extended to within 20 miles of the Mississippi Embayment in southernmost Illinois, and laid down an extensive blanket of deposits throughout much of the state. The last glaciation, the Wisconsinan, was the most important of the glaciations with respect to modern character of Illinois (Flemal, 1972b). It was during this time that much of the modern landscape came into existence. Wisconsinan deposits occupy most of northeastern Illinois. These Wisconsinan age deposits have been exposed to weathering for a much shorter time than the older Illinoian deposits, so that there are marked differences in the soils found on the separate drift sheets.

As much as half the material in the tills of Illinois has been transported less than 100 miles from its bedrock source, (Willman and Frye 1970). The major bedrock units in Illinois that contributed notable quantities of rock to the Pleistocene deposits are: (1) Silurian dolomite in the northeast and in a small part of the glaciated area in the northwest; (2) Ordovician dolomite in much of the central northern part of the state; (3) Ordovician shale in belts between the Silurian and Ordovician dolomites; (4) Mississippian limestones with minor amounts of shale and sandstone in the western part of the state; and (5) Pennsylvanian rocks consisting of shale (50 percent), sandstone and siltstone (40 percent), limestone, coal, and other minor constituents (10 percent) throughout the central part of the state.

The thickness of glacial drift in Illinois varies from zero to approximately 600 feet, with the average being about 100 feet (see Figure 4). Western and southern Illinois are areas of thin drift, while the northeastern quarter of the state has a cover of thick drift. The extremely thick drifts are found over major bedrock valleys.

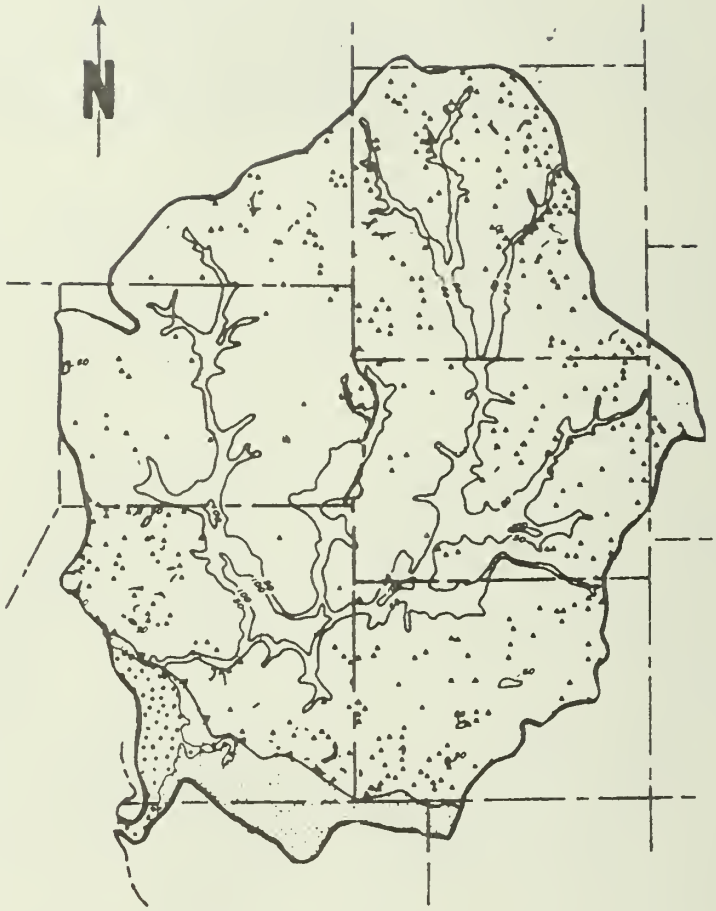
Much of Illinois is mantled by a layer of loess. Loess is a silty windblown deposit. During glacial times the melting of the glaciers produced tremendous floods of meltwater which were channeled down the major river valleys--the Mississippi, Illinois, Wabash, and Ohio. During periods of low melting when the flood waters receded, the wind picked up dust from the dry valley floors and deposited it as loess on the uplands. The loess is thickest east of the valleys because of the prevailing westerly winds. It is thicker near the valley source areas and becomes progressively thinner with distance away from the source. The average thickness of loess varies from 6 to 20 feet in western Illinois to two to five feet in eastern Illinois. Loess is the most extensive parent material of Illinois soils. It also constitutes the major portion of suspended sediment transported by streams in the state (Army Corps of Engineers, 1969).

The surficial geology of this basin is shown in Figure 5.

The Big Muddy River Basin is in the southern part of the geologic structure known as the Illinois Basin. Over most of the basin the bedrock lies nearly flat, sloping gently toward the east. Bedrock in the Big Muddy Basin consists primarily of Pennsylvanian shale, sandstone, limestone, and coal. A small area of Mississippian, Devonian, and Silurian bedrock occurs in the southwestern portion of the basin. The Devonian and Silurian bedrock consists of limestones and sandstones which, together with Pennsylvanian rocks, uplifted and formed portions of the Shawnee Hills.

The Pennsylvanian bedrock underlies about 80 percent of the basin and in places reaches thicknesses of 2,600 feet. In general, this bedrock system is composed of shale, sandy shale and sandstone interbedded with thin limestone layers and coal measures.

FIGURE 4



Source: ISWS

EXPLANATION

Scale of Miles

0 10 20 30

Driftless area (mostly loess covered)

Glacial outwash and Recent alluvium in driftless area; thickness not mapped

Thickness line - contour interval 100 feet; 50-foot line also shown

Margin of glacial drift

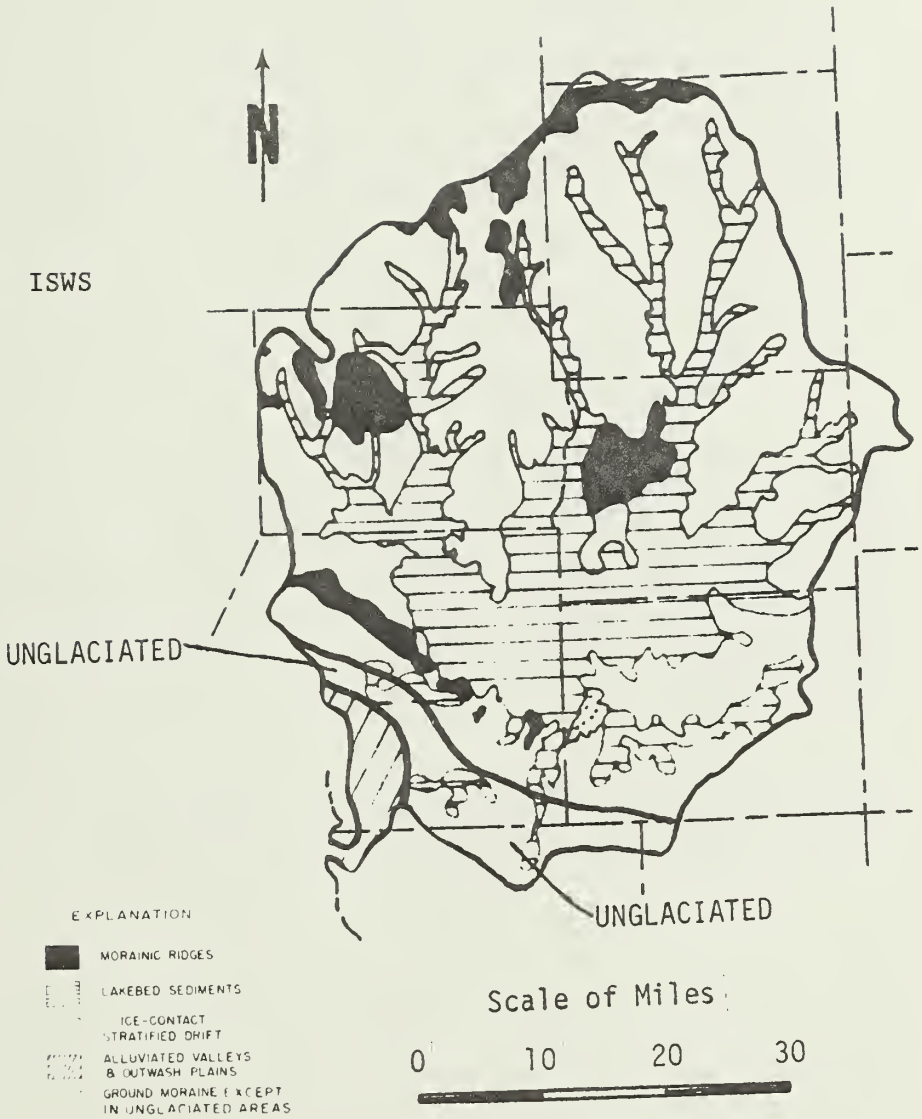
Bedrock exposure

(See references 5 and 6)

THICKNESS OF GLACIAL DRIFT IN BIG MUDDY RIVER BASIN

FIGURE 5

Source: ISWS



(See reference 1)

SURFICIAL GEOLOGY OF BIG MUDDY RIVER BASIN

Bedrock in the Big Muddy River Basin is overlain by discontinuous deposits of Pleistocene glacial till, a clay-rich slowly permeable material. Uplands are generally mantled with 0 to 300 inches of a moderately to slowly permeable silty soil known as loess, the depth and permeability of which decrease from southwest to northeast across the basin. The stream valleys contain alluvium and lake clays, generally with low permeability and high water table levels. The Mississippi River floodplain, a small part of the basin, contains deposits of outwash consisting of sand and gravel interbedded with layers of silt and clay. In addition, occasional small granular deposits such as alluvium, dune sand and various types of glacial outwash deposits may be found in the basin.

Natural Resources

The major natural resources available in the Big Muddy River Basin are soil, minerals, forests, and water. Groundwater supplies are scanty and of poor quality except along the extreme western edge of the basin. The widespread construction of water supply impoundments generally has provided adequate supplies throughout the basin.

The principal mineral resources found in the basin are coal and oil. These two commodities are in active production and are shipped from the area in quantities sufficient to make the Big Muddy River Basin a leading fuel producing region. Pennsylvanian coal measures underlay most of the basin and have been extensively mined for about 100 years. Reserves of coal which can be economically recovered using present mining techniques are known to exceed 16 billion tons. The coal extracted from basin lands is classified as highly volatile, with high heat values and moderate to high sulfur content.

Oil pools are known to exist in Franklin, Hamilton, Jefferson and Washington Counties. Most of the basin's oil production is from fields in Franklin and Jefferson Counties. Estimated oil reserves in the Franklin and Jefferson County fields are over 41 million barrels, exclusive of any secondary recovery methods. Wide use of secondary recovery methods could increase the reserves by about 50 percent. Such methods are currently being used in the basin and account for about 60 percent of the basin's total present crude oil production.

Other mineral resources in the basin are sand, gravel, limestone, sandstone, clay, and shale. These commodities are not recovered in large amounts and production is used to supply local demands.

Soils (29)

In Illinois, the major types of parent material forming soils are loess, outwash, till and alluvium. Bedrock and accumulations of organic matter are of only minor importance. The following general description of Illinois soils is based on the work of Fehrenbacher, Walker, and Wascher (1967). Thornburn (1963) presents a more engineering-related description of Illinois soils.

Of the ten major soil orders, five are important in Illinois. These are the Mollisol, Alfisols, Inceptisols, Entisols, and Histosols.

Mollisols occupy about 49 percent of the state; most occur in central and northern Illinois. They have dark-colored surface layers formed under grass vegetation. Underground vegetational remains, consisting mostly of roots, form this dark color. The organic content is more than one percent in a layer which is typically at least ten inches thick, unless the total soil is very thin.

Alfisols predominate in southern Illinois. The surface layer of these soils is light-colored, or, if the surface layer is dark, it is less than 10 inches thick. The organic content of these surface layers is less than one percent throughout their total thickness. The Alfisols also have a recognizable B horizon of clay accumulation.

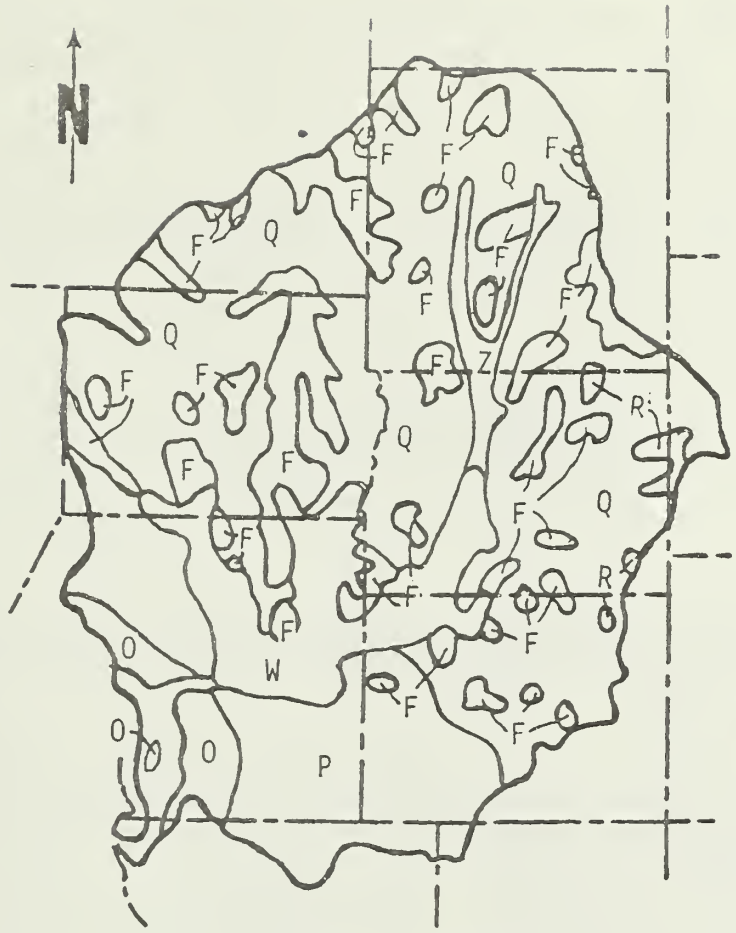
Inceptisol areas are often small or narrow and are included with the Mollisol areas in the bottomland and with the Alfisols in the uplands. They lack the thick, dark-colored surface layer of the Mollisols and the B horizon of clay accumulation of the Alfisols. They do have some recognizable horizons or show evidence of the beginning of horizon development. Such phenomena as leaching of carbonates, oxidation or reduction of iron compounds, or the formation of structure may have taken place.

Entisols are estimated to occupy about 1.5 percent of the state. They occur along streams and also in very sandy areas. They include the better drained, recently deposited alluvial soils which have not been in place long enough to develop recognizable horizons.

Histosols occur mainly in extreme northeastern Illinois. They include the organic soils--the peats and mucks. These soils are formed from the remains of plants. Organic matter content is generally 14 percent or more, and the soils are wet unless artificially drained.

The soils of the Big Muddy Basin, for the most part, were derived from loess or various sediments, all of which contain significant amounts of clay and fine silt, and as a result, are fairly dense. The soils derived from these materials tend to be slowly permeable, acid, and generally of low to moderate productivity. While there are seven major soil associations in the Big Muddy River Basin, the foregoing description generally describes five of the soil associations which comprise over 90 percent of the sand surface area (Figure 6 and Tables 1-7).

FIGURE 6



Source: ISWS

Scale of Miles

0 10 20 30

EXPLANATION

(See references 2,3,21,22,23,24,25, and Appendix)

Dark-Colored Soils
Developed primarily from loess
F Hoyleton-Cisne-Huey

Light-Colored Soils
Developed primarily from loess
O Stookey-Alford-Muren
P Hosmer-Stoy-Weir
Q Ava-Bluford-Wynoose
R Grantsburg-Robbs-Wellston

Dark- and Light-Colored Soils
Developed primarily from medium and fine-textured outwash
W Littleton-Proctor-Plano-Camden-Hurst-Ginat
Developed primarily from alluvium
Z Lawson-Beaucoup-Darwin-Haymond-Belknap

SOILS ASSOCIATION MAP OF BIG MUDDY RIVER BASIN

Table 1. — Characteristics and Estimated Crop Yields of Soil Association F — Hoyleton-Cisne-Huey Soils[a]

Soil series No. and name	Dominant slope (percent)	Surface soil		Subsoil			Substratum	Resistance to drouth	Estimated average yields under high level of management (1956 to 1965)		
		Color	Texture	Color	Texture	Permeability			Corn bu./a.	Soybeans bu./a.	Wheat bu./a.
Major soils											
2 Cisne	0–2	Very dark grayish-brown	sil	Grayish-brown to gray	heavy sicl	Slow to very slow	sicl-cl till	Good	84	31	40
3 Hoyleton	1–4	Very dark grayish-brown	sil	Gray and brown	heavy sicl	Slow	l-cl till	Good	83	30	41
4 Richview	3–7	Very dark grayish-brown	sil	Brown and gray	sicl	Moderately slow	l till	Good	76	26	36
Associated soils											
287 Chauncey	0–2	Very dark gray	sil	Dark gray	heavy sicl	Slow	sil-sicl loess or wash	Good	89	35	43
48 Ebbert	0–1	Very dark gray	sil	Dark gray	sicl	Slow	cl till	Good-very good	92	37	43
120 Huey	0–2	Dark grayish-brown	sil	Gray	sicl	Very slow	cl-sicl till	Poor	50	20	24
167 Lukin	1–3	Very dark grayish-brown	sil	Brown and gray	sicl	Slow	sil-sicl loess or wash	Good	88	33	44
218 Newberry	0–1	Very dark grayish-brown	sil	Gray	sicl	Slow	cl-sicl till	Good	86	34	38
581 Tamalco	1–5	Very dark grayish-brown	sil	Reddish-brown to gray	heavy sicl	Slow to very slow	sil loess or till	Poor to fair	52	21	25
584 Walshville	4–12	Dark grayish-brown	l	Brown and gray	cl	Very slow to slow	cl-l till	Poor	40	15	18

Table 2. — Characteristics and Estimated Crop Yields of Soil Association O — Stookey-Alford-Muren Soils[a]

Soil series No. and name	Dominant slope (percent)	Surface soil		Subsoil			Substratum	Resistance to drouth	Estimated average yields under high level of management (1956 to 1965)		
		Color	Texture	Color	Texture	Permeability			Corn bu./a.	Soybeans bu./a.	Wheat bu./a.
Major soils											
308 Alford	3–12	Dark grayish-brown	sil	Brown	sicl	Moderate	sil loess	Good-very good	90	29	38
307 Iona	3–7	Dark grayish-brown	sil	Brown and gray	sicl	Moderate	sil loess	Good-very good	90	30	38
454 Iva	0–2	Dark grayish-brown	sil	Gray and brown	sicl	Mod. to mod. slow	sil loess	Good-very good	98	32	42
453 Muren	2–7	Dark grayish-brown	sil	Brown and gray	sicl	Moderate	sil loess	Good-very good	92	30	39
723 Reesville	1–3	Dark grayish-brown	sil	Gray and brown	sicl	Mod. to mod. slow	sil loess	Good-very good	95	32	38
19 Sylvan	7–18	Dark grayish-brown	sil	Yellowish-brown	sicl	Moderate	sil loess	Good-fair	65	20	28
116 Whitson	0–1	Dark grayish-brown	sil	Gray and brown	sicl	Slow to mod. slow	sil loess	Good-very good	85	28	27
Associated soils											
35 Bold	5–25	Brown	sil	Brown and gray	sil	Moderate	sil loess	Fair	48	18	24
30 Hamburg	18–45+	Brown	si	Yellowish-brown	si	Moderately rapid	si loess	Poor	...	...	...
216 Stookey	20–30+	Dark grayish-brown	sil	Brown	heavy sil	Moderate	sil loess	Good	...	...	...
271 Timula	4–15	Dark grayish-brown	sil	Yellowish-brown	sil	Moderate	sil loess	Fair	65	22	24

Table 3. — Characteristics and Estimated Crop Yields of Soil Association P — Hosmer-Stoy-Weir Soils[a]

Soil series No. and name	Dominant slope (percent)	Surface soil		Subsoil			Substratum	Resistance to drouth	Estimated average yields under high level of management (1956 to 1965)		
		Color	Texture	Color	Texture	Permeability			Corn bu./a.	Soybeans bu./a.	Wheat bu./a.
Major soils											
214 Hosmer	3–10	Dark grayish-brown	sil	Brown and gray	sicl	Mod. slow to slow	sil loess	Good-fair	70	27	36
164 Stoy	1–4	Dark grayish-brown	sil	Gray and brown	sicl	Slow	sil loess	Good-fair	80	29	38
165 Weir	0–2	Dark grayish-brown	sil	Gray	sicl-hv. sicl	Slow	sil loess	Good-fair	78	28	32
Associated soils											
8 Hickory	15–30	Dark grayish-brown	l	Yellowish-brown	cl	Mod.-mod. slow	l till	Good-fair	...	...	...
585 Negley	10–20	Dark grayish-brown	sil	Reddish-brown	scl-cl	Moderate	l-cl drift	Fair	65	25	33
15 Parke	7–15	Brown to dark grayish-brown	sil	Reddish-brown	sicl-scl	Moderate	l-cl drift	Good-fair	74	27	36
583 Pike	3–10	Brown to dark grayish-brown	sil	Dark brown	sicl	Moderate	l-cl drift	Good	80	28	37
215 Wartrace	3–10	Dark grayish-brown	sil	Dark brown	sicl	Moderate	sil loess on limestone	Good	82	28	35

Abbreviations and symbols used in tables above are as follows: <=less than; >=greater than;c=clay;calc.=calcareous;cl.=clay loacm;f=fine;fs.=fine sand; fal.=fine sand loam;ft/=feet;g=gravel;gcl.=gravelly clay loam;gl.=gravelly loam;hv.=heavy;inc.=including;l.=loam;lfs.=loamy fine sand;ls.=loamy sand; mat/=material;med.=medium;mod.=moderate;noncalc.=noncalcareous;s.=sand;scl.= sandy clay loam;si.=silt;sic.=silty clay;sicl.=silty clay loam;sil.=silt loam; sl.=sandy loam;slt.=slightly;and tex.=texture.

Table 4. — Characteristics and Estimated Crop Yields of Soil Association Q — Ava-Bluford-Wynoose Soils[a]

Soil series No. and name	Dominant slope (percent)	Surface soil		Subsoil			Substratum	Resistance to drouth	Estimated average yields under high level of management (1956 to 1965)		
		Color	Texture	Color	Texture	Permeability			Corn bu./a.	Soybeans bu./a.	Wheat bu./a.
Major soils											
14 Ava	3–7	Dark grayish-brown	sil	Brown and gray	sicl	Slow-mod. slow	l till	Fair-good	65	25	33
5 Blair	4–12	Dark grayish-brown	sil	Gray and brown	sicl-cl	Slow-mod. slow	cl till	Fair-good	60	21	30
13 Bluford	1–4	Dark grayish-brown	sil	Gray and brown	heavy sicl	Slow	l-cl till	Fair-good	72	27	39
8 Hickory	15–30	Dark grayish-brown	l	Yellowish-brown	cl	Mod.-mod. slow	l till	Good-fair	...	...	...
12 Wynoose	0–2	Dark grayish-brown	sil	Gray	hv. sicl-sic	Very slow	sicl-cl till	Fair	70	27	35
Associated soils											
337 Creal	1–4	Dark grayish-brown	sil	Gray and brown	sicl	Slow	sil wash	Good-fair	76	28	40
264 El Dara	12–25	Dark grayish-brown	sl	Brown and gray	cl-c	Slow-moderate	sl-cl outwash	Poor-fair	...	...	...
585 Negley	10–20	Dark grayish-brown	sil	Reddish-brown	scl-cl	Moderate	l-cl drift	Fair	65	25	33
15 Parke	7–15	Brown to dark grayish-brown	sil	Reddish-brown	sicl-scl	Moderate	l-cl drift	Good-fair	74	27	36
583 Pike	3–10	Brown to dark grayish-brown	sil	Dark brown	sicl	Moderate	l-cl drift	Good	80	28	37
109 Racoon	0–2	Dark grayish-brown	sil	Gray	sic	Slow	sil wash-cl till	Fair-good	74	28	37

Table 5. — Characteristics and Estimated Crop Yields of Soil Association R — Grantsburg-Robbs-Wellston Soils[a]

Soil series No. and name	Dominant slope (percent)	Surface soil		Subsoil			Substratum	Resistance to drouth	Estimated average yields under high level of management (1956 to 1965)		
		Color	Texture	Color	Texture	Permeability			Corn bu./a.	Soybeans bu./a.	Wheat bu./a.
Major soils											
301 Grantsburg	2–10	Dark grayish-brown	sil	Brown and gray	sicl	Very slow-mod. slow	sil loess and sandstone	Fair	62	23	32
335 Robbs	0–2	Dark grayish-brown	sil	Gray and brown	sicl-hv. sicl	Slow to very slow	sil loess and sandstone	Fair	64	25	36
340 Zanesville	7–18	Dark grayish-brown	sil	Strong brown and gray	sicl-cl	Moderately slow	sandstone	Fair	...	...	25
Associated soils											
425 Muskingum	15–30+	Dark grayish-brown	stony sil	Yellowish-brown	stony sil-l	Mod. rapid-mod.	sandstone	Very poor	...	...	...
339 Wellston	12–30	Dark grayish-brown	sil	Strong brown	sicl	Moderate	sandstone	Fair-poor	...	...	...

Abbreviations and symbols used in tables above are as follows: <=less than; >=greater than;c=clay;calc.=calcareous;cl.=clay loacm;f=fine;fs.=fine sand; fal.=fine sand loam;ft/=feet;g=gravel;gcl.=gravelly clay loam;gl.=gravelly loam;hv.=heavy;inc.=including;l.=loam;lfs.=loamy fine sand;ls.=loamy sand; mat/=material;med.=medium;mod.=moderate;noncalc.=noncalcareous;s.=sand;scl.= sandy clay loam;si.=silt;sic.=silty clay;sicl.=silty clay loam;sil.=silt loam; sl.=sandy loam;slt.=slightly;and tex.=texture.

Table 6 — Characteristics and Estimated Crop Yields of Soil Association W — Littleton-Proctor-Plano-Comden-Hurst-Ginat Soils[a]

Soil series No. and name	Dominant slope (percent)	Surface soil		Subsoil			Substratum	Resistance to drouth	Estimated average yields under high level of management (1956 to 1965)		
		Color	Texture	Color	Texture	Permeability			Corn bu./a.	Soybeans bu./a.	Wheat bu./a.
Major soils											
80 Alexis	3-7	Very dark grayish-brown	sil	Brown	sicl-cl	Moderate	sl-l outwash	Good	82	30	36
105 Batavia	1-4	Very dark grayish-brown	sil	Brown	sicl	Moderate	sl outwash or till	Very good	100	34	40
149 Brenton	0-2	Very dark brown to black	sil	Gray and brown	sicl-cl	Moderate	l-sl outwash	Very good	106	36	44
134 Camden	1-7	Dark grayish-brown	sil	Brown	sicl-cl	Moderate	l-sl outwash	Good	85	30	35
122 Colp	4-7	Dark grayish-brown	sil	Brown and gray	sic	Slow	sic-sicl lake-bed mat.	Fair	62	25	32
192 Del Rey	1-3	Dark grayish-brown	sil	Gray and brown	hv. sicl-sic	Slow	sicl lakebed mat.	Good	80	29	35
262 Denrock	0-2	Very dark gray	sil	Reddish-brown and gray	sic	Slow to very slow	sic-c lake-bed mat.	Good-fair	76	27	32
152 Drummer	0-1	Black	sicl	Dark gray	sicl	Moderate	l wash	Very good	102	40	43
75 Drury	2-7	Dark grayish-brown	sil	Yellowish-brown	sil	Moderate	sil wash	Good-very good	90	30	33
198 Elburn	0-2	Very dark brown to black	sil	Gray and brown	sicl	Moderate	sl outwash or till	Very good	112	37	46
341 Gilmer	2-5	Very dark grayish-brown	sil	Brown and gray	hv. sicl	Moderately slow	sicl lakebed mat.	Good-very good	90	32	36
460 Ginat	0-1	Dark grayish-brown	sil	Gray	sicl-cl	Slow	sl-l outwash	Fair-good	76	27	32
484 Harco	0-2	Very dark gray	sil	Gray and brown	sicl	Moderate	sil wash or loess	Very good	103	36	44
344 Harvard	1-4	Very dark grayish-brown	sil	Brown	sicl-cl	Moderate	l-sl outwash	Good-very good	93	32	38
328 Hurst	1-4	Dark grayish-brown	sil	Gray and brown	sic	Very slow to slow	sic lakebed mat.	Fair	65	26	33
242 Kendall	0-2	Dark grayish-brown	sil	Gray and brown	sicl	Moderate-mod. slow	sl outwash or till	Good-very good	98	34	43
102 LaHogue	0-2	Very dark gray to black	l	Gray and brown	cl	Moderate	sand	Good	90	35	40
81 Littleton	0-2	Very dark brown to very dark gray	sil	Gray and brown	sil	Moderate	sil wash	Very good	105	35	43
176 Marissa	0-2	Very dark gray	sil	Gray and brown	sicl	Moderately slow	sil lakebed mat.	Very good	95	34	40
467 Markland	4-7	Dark grayish-brown	sil	Brown and gray	sic-c	Slow	sic-sicl lake-bed mat.	Fair	63	28	33
159 Martinton	1-3	Very dark gray	sil	Gray and brown	heavy sicl	Mod. slow to slow	sicl lakebed mat.	Good-very good	95	35	40
173 McGary	1-4	Dark grayish-brown	sil	Gray and brown	sic	Slow to very slow	sic lakebed mat.	Fair	66	27	34
69 Milford	0-1	Black	sicl	Dark gray	heavy sicl	Moderately slow	sicl wash or till	Good-very good	94	36	40
219 Millbrook	0-2	Very dark gray	sil	Gray and brown	sicl	Moderate-mod. slow	l-sl outwash	Very good	97	33	41
84 Okaw	0-2	Dark grayish-brown	sil	Gray	sic-c	Very slow	sic-c lake-bed mat.	Poor	60	23	30
142 Patton	0-1	Very dark gray	sicl	Dark gray	sicl	Moderate	sil lakebed mat.	Very good	95	36	40
568 Perrot	0-2	Very dark gray	sicl	Grayish to reddish-brown	sic-c	Very slow	sil-sic lake-bed mat.	Fair	63	24	26
159 Pilot	2-7	Very dark grayish-brown	sil	Brown	sicl	Moderate	sand	Fair-good	80	25	33
109 Plano	1-4	Very dark brown	sil	Brown	sicl	Moderate	sl outwash or till	Very good	105	35	42
148 Proctor	1-4	Very dark brown	sil	Brown	sicl-cl	Moderate	l-sl outwash	Very good	100	34	42
723 Reesville	1-2	Dark grayish-brown	sil	Gray and brown	sicl	Moderate-mod. slow	sil loess or wash	Good-very good	95	32	38
482 Scotaville	2-5	Dark grayish-brown	sil	Brown and gray	sicl	Moderately slow	sl-l outwash	Fair-good	80	26	34
125 Selma	0-1	Black	l	Dark gray	cl	Moderate	sl-c outwash	Good-very good	95	32	36
208 Sertoma	0-1	Dark grayish-brown	sil	Gray	heavy sicl	Slow	l-sl outwash	Good	85	29	33
132 Starks	0-2	Dark grayish-brown	sil	Gray and brown	sicl-cl	Moderate-mod. slow	l-sl outwash	Good-very good	89	31	39
243 St. Charles	1-6	Dark grayish-brown	sil	Brown	sicl	Moderate	sl outwash or till	Good-very good	92	32	40
211 Tamms	1-3	Dark grayish-brown	sil	Gray and brown	sicl	Moderate	sand	Fair-good	76	24	32
212 Thebes	2-7	Dark grayish-brown	sil	Brown	sicl	Moderate	sand	Fair-good	73	22	30
482 Uniontown	1-5	Dark grayish-brown	sil	Brown	sicl	Moderate	sil lakebed mat.	Good	80	26	32
104 Virgil	0-2	Very dark gray	sil	Gray and brown	sicl	Moderate-mod. slow	sl outwash or till	Very good	102	35	42
461 Weinbach	1-3	Dark grayish-brown	sil	Gray and brown	sicl	Slow to mod. slow	sl-l outwash	Good	82	31	38
463 Wheeling	1-7	Dark grayish-brown	sil	Strong brown	sicl-cl	Moderate	sl-l outwash	Fair-good	76	26	32
37 Worthen	2-5	Very dark brown	sil	Brown	sil	Moderate	sil wash	Very good	102	34	40
Associated soils											
732 Arco	0-2	Very dark grayish-brown	sil	Gray and brown	sil	Moderate	sil wash	Very good	94	33	40
158 Beardstown	0-2	Very dark gray	l	Gray and brown	cl	Mod. slow-mod.	sl-l outwash	Good	85	33	36
156 Brooklyn	0-1	Very dark grayish-brown	sil	Gray	heavy sicl	Slow	sl-l outwash	Fair	75	29	32
348 Downing	2-7	Very dark grayish-brown	sil	Dark brown	scl-cl	Moderately rapid	sand	Fair	77	29	32
137 Ellison	1-4	Dark grayish-brown	sil	Yellowish-brown	cl	Mod.-mod. rapid	sand	Fair	73	26	30
469 Emma	1-4	Dark grayish-brown	sicl	Brown and gray	sicl	Moderately slow	sicl	Good	85	28	31
67 Harpster	0-1	Black to very dark gray	sicl	Dark gray	sicl	Moderate	l wash	Good-very good	96	36	39
191 Knight	0-1	Very dark gray	sil	Gray	sicl-cl	Moderately slow	sl-g	Good	78	34	36
265 Lomax	1-4	Very dark brown	l	Dark brown	l-sl	Mod. rapid	ls-s	Fair-good	77	26	29
465 Montgomery	0-1	Very dark gray	sic	Dark gray	sic-c	Slow	sic-c lake-bed mat.	Good	87	32	35
261 Niota	0-2	Very dark gray	sil	Grayish to reddish-brown	sic-c	Very slow	sil-sic lake-bed mat.	Fair	61	23	27
39 Oakford	2-7	Very dark grayish-brown	sil	Brown	sil	Moderate	sil wash	Very good	94	32	38
130 Pittwood	0-1	Black	fal	Dark gray	cl	Moderate-mod. rapid	sand	Good	85	32	34
206 Thorp	0-2	Very dark gray	sil	Gray and brown	sicl	Mod. slow-slow	sl-l outwash	Good	87	31	36
197 Troxel	0-3	Black	sil	Brown	sicl	Moderate	g and s	Very good	102	37	38
110 Vanedy	0-2	Very dark gray	sil	Gray and brown	sicl	Moderately slow	sic lake-bed mat.	Good	84	32	39
28 Wagner	0-2	Very dark grayish-brown	sil	Gray and brown	sic	Slow-very slow	sic-sicl lake-bed mat.	Good	80	30	35
576 Zwingle	2-4	Dark grayish-brown	sil	Grayish-reddish-brown	sic-c	Very slow	sil-sic lake-bed mat.	Fair	67	26	30

(From reference 3)

Abbreviations and symbols used in tables above are as follows: <=less than; >=greater than;c=clay;calc.=calcareous;cl.=clay loacm;f=fine;fs.=fine sand; fal.=fine sand loam;ft/=feet;g=gravel;gcl.=gravelly clay loam;gl.=gravelly loam;hv.=heavy;inc.=including;l.=loam;lfs.=loamy fine sand;ls.=loamy sand; mat/=material;med.=medium;mod.=moderate;noncalc.=noncalcareous;s.=sand;scl.= sandy clay loam;si.=silt;sic.=silty clay;sicl.=silty clay loam;sil.=silt loam; sl.=sandy loam;slt.=slightly;and tex.=texture.

Table 7. — Characteristics and Estimated Crop Yields of Soil Association Z — Lawson-Beaucoup-Darwin-Haymond-Belknap Soils[a]

Soil series No. and name	Dominant slope (percent)	Surface soil		Subsoil			Substratum	Resistance to drouth	Estimated average yields under high level of management (1956 to 1965)		
		Color	Texture	Color	Texture	Permeability			Corn bu./a.	Soybeans bu./a.	Wheat bu./a.
Major soils											
306 Allison	0–2	Very dark grayish-brown	sicl	Brown	sicl	Moderate	sicl-sil	Very good	106	35	41
78 Arenzville	0–2	Dark grayish-brown	sil	Brown	sicl	Moderate	dark sicl	Very good	98	34	40
70 Beaucoup	0–1	Very dark gray to black	sicl	Dark gray	sicl	Moderate	sicl	Very good	96	36	38
124 Beaucoup	0–1	Very dark gray to black	gcl	Dark gray	sicl	Moderate	sicl	Very good	95	34	36
362 Belknap	0–2	Dark grayish-brown	sil	Gray and brown	sil	Moderately slow	sil	Good	85	31	37
334 Birds	0–1	Grayish-brown	sil	Gray	sil	Slow to mod. slow	sil	Good	85	31	36
108 Bonnie	0–1	Grayish-brown	sil	Gray	sil	Slow	sil	Good	80	28	34
589 Bowdre	0–2	Very dark gray	sic	Dark gray	sic-cl	Mod.-mod. slow	ls	Fair-good	83	29	34
422 Cape	0–1	Dark grayish-brown	sicl	Gray to olive gray	sic	Very slow	sic	Fair	72	26	29
71 Darwin	0–1	Very dark gray	sic	Gray	sic-c	Very slow	sic	Fair	77	29	30
239 Dorchester	0–2	Very dark grayish-brown	sil	Brown and gray	sil	Moderate	sil-l	Very good	95	33	35
578 Dorchester	0–2	Very dark grayish-brown	sil rocky sub-stratum	Brown and gray	sil	Moderate	chert and limestone fragments	Good	86	31	35
321 Du Page	0–2	Black	sil	Gray and brown	sil	Moderate	sil	Good	85	30	35
180 Dupo	0–1	Dark grayish-brown	sil	Gray and brown	sil	Moderately slow	dark sicl-sic	Good-very good	91	32	38
162 Gorham	0–1	Very dark gray to black	sicl	Dark gray	sicl	Mod.-mod. slow	sl-ls	Very good-good	98	35	39
331 Haymond	0–2	Dark grayish brown	sil	Brown	sil	Moderate	sil-l	Very good	100	35	42
77 Huntsville	0–2	Very dark brown	sil	Brown	sil	Moderate	sil-l	Very good	106	38	43
85 Jacob	0–1	Dark gray	c	Gray	c	Very slow	c	Poor	45	20	20
28 Jules	0–2	Brown	sil	Yellowish-brown-brown	sil	Moderate	sil	Good-very good	92	33	39
426 Karnak	0–1	Grayish-brown	sic	Gray	sic-c	Very slow	sic-c	Fair	67	24	28
304 Landes	0–2	Very dark grayish-brown	fsl	Dark grayish-brown-brown	fsl	Mod. rapid-rapid	ls-s	Fair	70	25	30
451 Lawson	0–1	Black	sil	Black to very dark gray	sil	Moderate	sil-l	Very good	107	35	43
82 Millington	0–1	Black	l	Very dark gray	l	Moderate	l	Good-very good	90	32	36
161 Newart	0–2	Very dark grayish-brown	sil	Gray and brown	sil	Moderate	fsl	Very good	99	35	42
76 Otter	0–1	Black	sil	Very dark gray	sil	Moderate	sil-l	Very good	98	36	32
288 Petrolia	0–1	Dark gray	sicl	Gray	sicl	Moderately slow	sicl	Good	88	32	34
420 Piopolis	0–1	Grayish-brown	sicl	Gray	sicl	Slow	sicl	Good	80	30	31
74 Radford	0–2	Very dark brown	sil	Black	sicl	Moderate	sicl	Very good	100	36	43
452 Riley	0–2	Very dark grayish-brown	sicl	Brown and gray	sicl-cl	Moderate	fsl-ls	Good	82	30	38
92 Sarpy	0–2	Yellowish-brown	sand	Yellowish-brown	sand	Very rapid	sand	Poor	50	20	24
72 Sharon	0–2	Dark grayish-brown	sil	Brown-dark grayish-brown	sil	Moderate	sil-l	Good-very good	92	32	38
284 Tice	0–2	Very dark grayish-brown	sicl	Gray and brown	sicl	Moderate	sicl	Very good	105	36	42
83 Wabash	0–1	Black	sic	Very dark gray	sic	Slow-very slow	sic-c	Fair	77	28	28
333 Wakeland	0–1	Dark grayish-brown	sil	Gray and brown	sil	Moderate	sil	Good-very good	92	33	38
456 Ware	0–2	Very dark grayish-brown	sil	Yellowish-brown	l	Mod. rapid-rapid	lfs-s	Good	82	31	36
Associated soils											
302 Ambraw	0–1	Very dark grayish-brown	cl	Dark gray	cl	Mod.-mod. slow	cl-sl	Good-very good	90	31	35
427 Burnside	0–3	Dark brown	sil	Dark yellowish-brown	sil	Moderate	sandstone	Fair	70	26	29
590 Cairo	0–2	Black to very dark gray	sic	Gray	sic	Slow	lfs-s	Good	85	31	32
400 Calco	0–1	Black to very dark gray	sicl	Very dark gray	sicl	Moderate	sicl	Very good	93	34	36
475 Elsah	0–3	Dark brown	cherty sil	Brown to dark brown	cherty sil	Mod.-mod. rapid	chert or limestone	Good	85	32	37
248 McFain	0–1	Very dark gray to black	sic	Dark gray	sil-fsl	Slow-very slow	heavy sicl-sic	Good	78	30	31
415 Orion	0–2	Dark gray	sil	Black	sil	Moderate	dark sicl-sil	Good-very good	88	32	33
107 Sawmill	0–1	Black to very dark gray	sicl	Very dark gray	sicl	Moderate	sicl	Very good	105	36	38

(From reference 3)

Abbreviations and symbols used in tables above are as follows: <=less than; >=greater than;c=clay;calc.=calcareous;cl.=clay loacm;f=fine;fs.=fine sand; fal.=fine sand loam;ft/=feet;g=gravel;gcl.=gravelly clay loam;gl.=gravelly loam;hv.=heavy;inc.=including;l.=loam;lfs.=loamy fine sand;ls.=loamy sand; mat/=material;med.=medium;mod.=moderate;noncalc.=noncalcareous;s.=sand;scl.= sandy clay loam;si.=silt;sic.=silty clay;sicl.=silty clay loam;sil.=silt loam; sl.=sandy loam;slt.=slightly;and tex.=texture.

Drainage (29)

Illinois is bordered by three major rivers, the Mississippi on the west, the Ohio on the south, and the Wabash on the east. Internally the state is drained by several large streams, including the Illinois, Rock, Kaskaskia, Big Muddy, Embarras, and Little Wabash Rivers, and also by many smaller streams. The following description of drainage in Illinois is taken from McCarthy (1972). Approximately 81 percent of the state is drained directly to the Mississippi via a southwestward-flowing tributary system. Most of the remaining 19 percent of the state is drained indirectly to the Mississippi via the Ohio and Wabash Rivers. Less than 0.1 percent of the state is drained into the Great Lakes system.

The Illinois River is the largest stream within the state, with its headwaters lying outside the state.

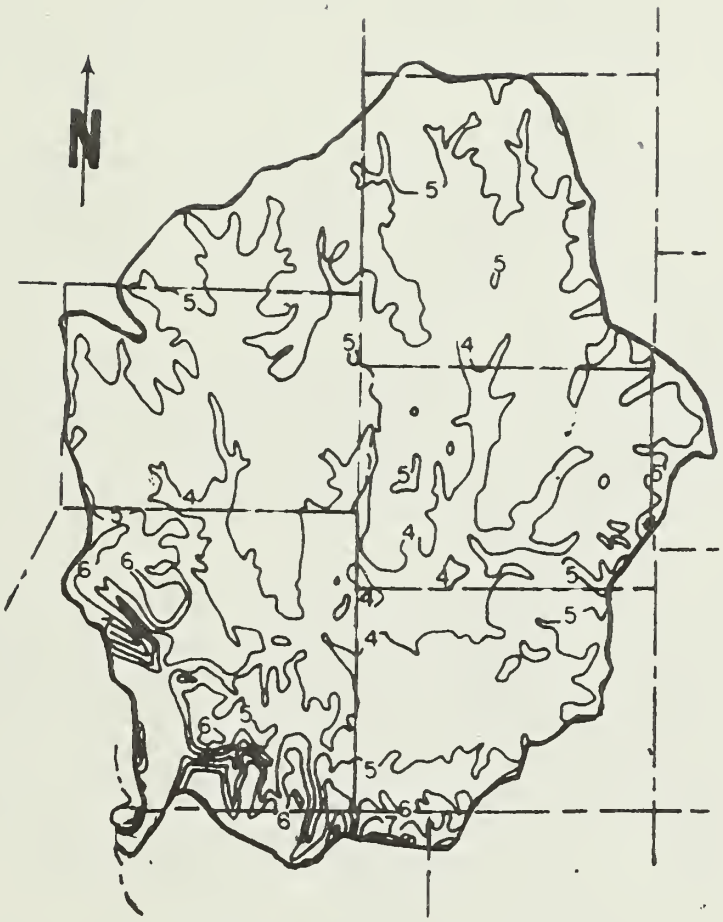
The second largest stream in the state is the Rock River. It drains the northwestern portion of the state as well as parts of adjacent southern Wisconsin. The Rock River Basin contains three major subbasins, the Pecatonica, Kishwaukee, and Green River Basins.

The Kaskaskia and Big Muddy Rivers enter the Mississippi in southwestern Illinois. The Kaskaskia, which is the larger of the two, has its headwaters in east-central Illinois. The drainage of the Big Muddy River is confined entirely to southern Illinois.

Drainage to the Ohio and Wabash Rivers consists of four major basins, those of the Vermilion-Wabash, Embarras, Little Wabash, and Saline Rivers. All four streams pursue generally southeasterly courses.

Topography of the Big Muddy River Basin is shown in Figure 7.

FIGURE 7



Source: ISWS

Scale of Miles

0 10 20 30

Elevation Values Expressed In
Hundreds Of Feet
(Contour Interval 100 Feet)
(See reference 4)

TOPOGRAPHY OF BIG MUDDY RIVER BASIN

Hydrology (29)

The hydrologic parameters of Illinois streams show a general north-south gradient. These parameters are shown. The mean annual discharge from a 100 square mile basin increases from 55 cubic feet per second (cfs) in northwestern Illinois to 130 cfs in extreme southern Illinois.

The average runoff of streams in Illinois is about 9 inches a year in the central part of the state and about 15 inches a year in the southern part (Illinois Technical Advisory Committee on Water Resources). Figure 8 shows a northwest to southeast gradient of average annual runoff in cfs per square mile.

The north-south gradient of these hydrologic parameters is due to variation in climatic and physiographic characteristics which display similar gradients. Discharge extremes are greater in southern Illinois than northern Illinois because precipitation quantities and extremes are greater in the South than the North, and because the ratio of direct runoff to infiltration tends to be greater in the South than in the North.

The drainage area of the Big Muddy River Basin is 2,387 square miles (Figure 9). Intermediate drainage areas for 6 gaging stations located in the basin are also listed. Average daily stream flow for a 100 square mile area ranges from 0.80 cfs in the northwestern part of the basin to 1.1 cfs in the southeastern part (Figure 10). 7-day, 10-year low flow of gaged streams in the basin range from 0.0 cfs on several intermittent streams in the basin to 36.3 cfs on the Big Muddy River near its confluence with the Mississippi River (Figure 11).

The location of and information about surface water reservoirs larger than 50 acres in the basin is presented (Figure 12 and Table 8).

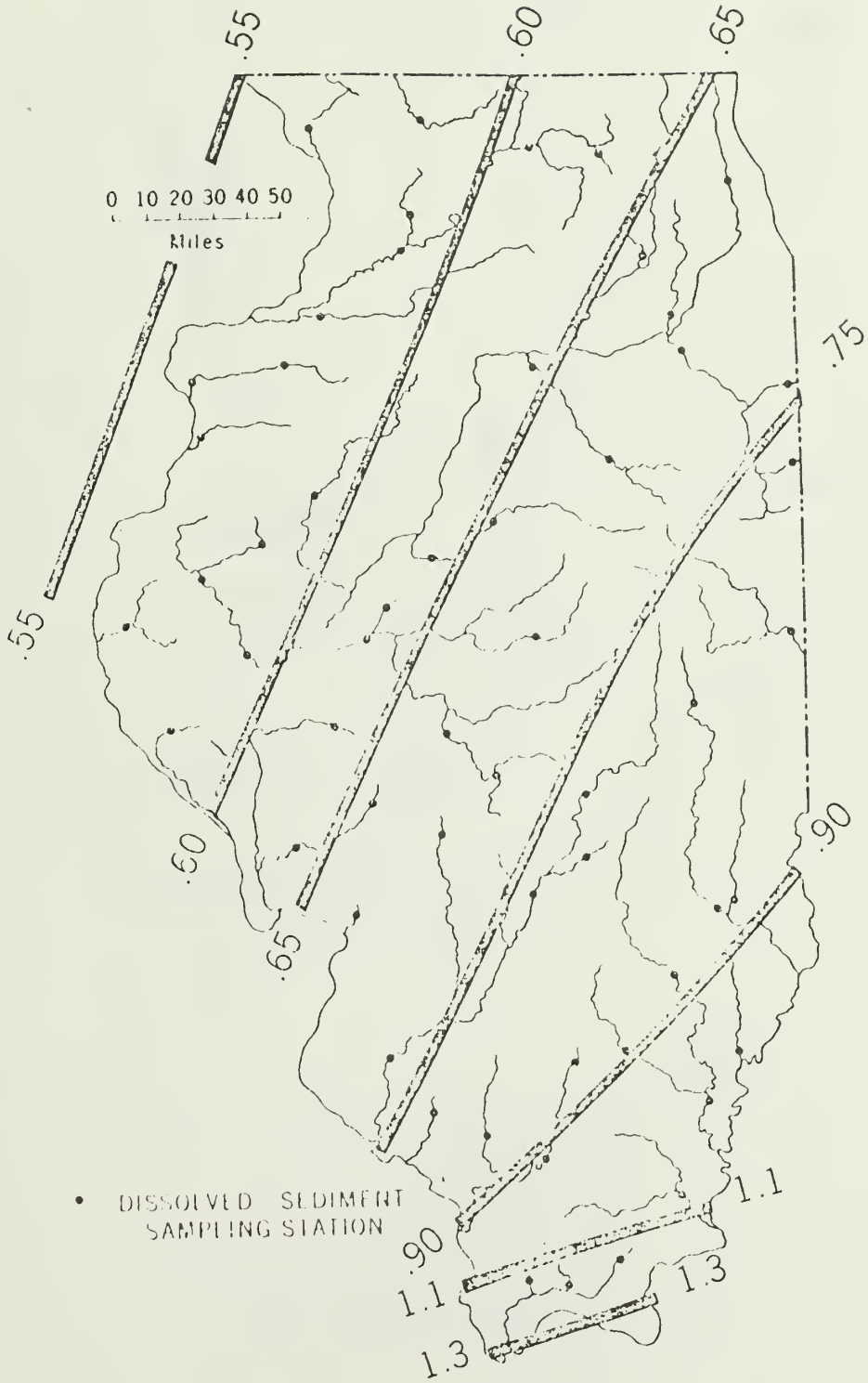


Figure 8. Average annual runoff in cfs. per square mile, Illinois Technical Committee on Water Resources, 1967.

FIGURE 9

Source: ISWS

EXPLANATION

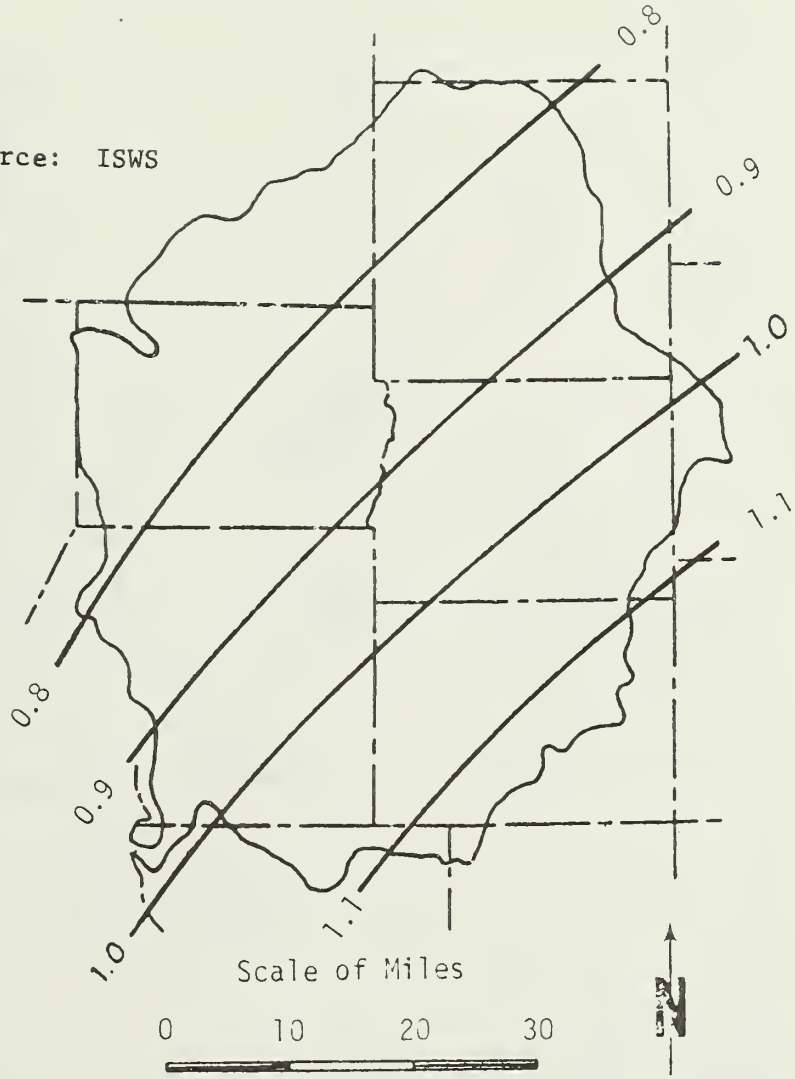
4 • Location of gaging station where drainage areas are listed below (See reference 11)

Map Code Number	Gaging Station	Drainage Area (Square Miles)
1	Rend Lake Near Benton	488
2	Big Muddy River at Plumfield	785
3	Big Muddy at Murphysboro	2,162
4	Beaucoup Creek Near Murphysboro	573
5	Crab Orchard Creek Near Marion	31.9
6	Big Muddy River Near Grand Tower	2,387
7	Crab Orchard Lake at Dam	201

DRAINAGE AREAS OF BIG MUDDY RIVER BASIN

FIGURE 10

Source: ISWS



EXPLANATION

(See reference 12)

0.8

Average daily flow for 100-mi^2 area
in cubic feet per second per square mile

AVERAGE DAILY STREAM FLOW IN BIG MUDDY RIVER BASIN

FIGURE 11

Source: ISWS

Scale of Miles
0 10 20 30

EXPLANATION

3 • Location of Gaging Station And Map Code Number Where Low Flow Data Are Listed Below

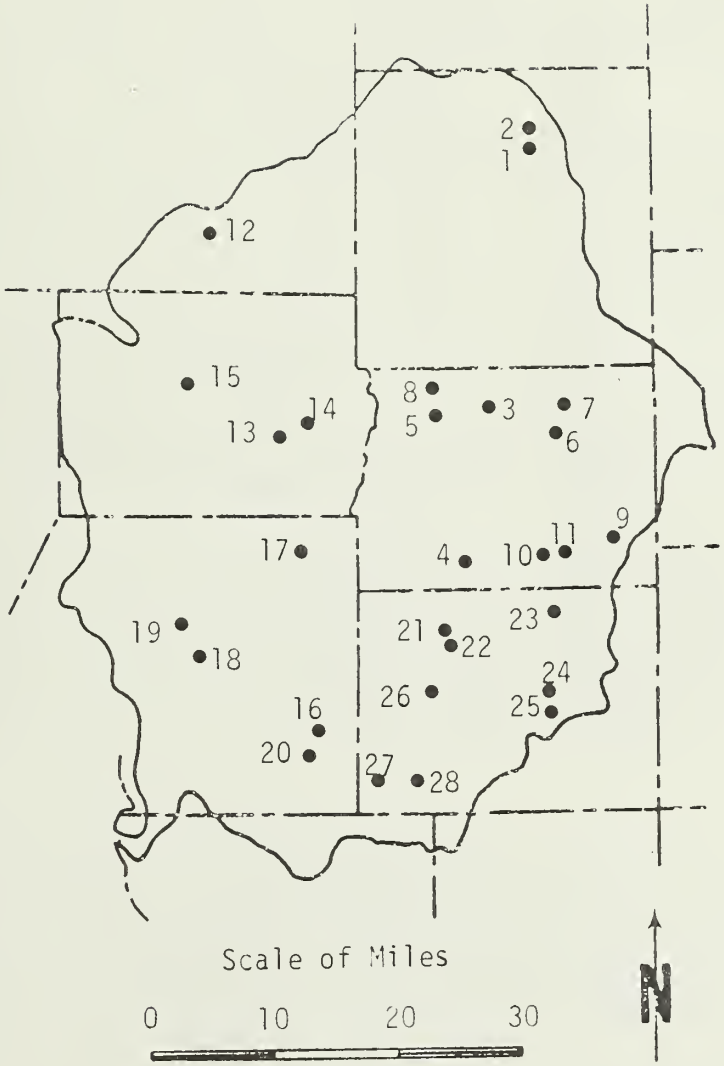
Map Code Number	Gaging Station	7-Day, 10-Year Low Flow (Cubic Feet Per Second)
1	Rend Lake Near Benton	30.6
2	Big Muddy River at Plumfield	31.0
3	Crab Orchard Creek Near Marion	0.0
4	Beaucoup Creek Near Mathews	0.0
5	Big Muddy River at Murphysboro	35.2

(See references 13 and 14)

SEVEN-DAY, TEN-YEAR LOW FLOWS OF STREAMS IN BIG MUDDY RIVER BASIN

Source: ISWS

FIGURE 12



EXPLANATION

23 ● Reservoir Location and Code Number (see next page for list of data on reservoirs) (See reference 19)

SURFACE WATER RESERVOIRS LARGER THAN 50 ACRES IN BIG MUDDY RIVER BASIN

Table 8

BIG MUDDY RIVER BASIN
SURFACE WATER RESERVOIR SUMMARY
(Larger than 50 Acres)

* Map Code Number	Watershed Area (Sq. Mi.)	Pool Area (Acres)	Capacity (Million Gallons)	Resrvoir Name	Remarks
1	9.2	128	353	Mt. Vernon Lake	Former water supply
2	4.7	147	500	Lake Miller	Former water supply
3	475	24,800	303,000	Rend Lake	50 Water supplies
4	1.1	54	54	C.B. & Q Lake	Railroad service
5	2.5	70	109	C.B. & Q Lake	Railroad service
6	120	70	169	Lake Benton	Former water supply
7	3.1	211	560	Lake Moses	Former Benton supply
8	0.1	50	90	Mine Number 11	Mining water supply
9	2.4	53	170	I.C. Reservoir	Railroad service
10	3.8	149	355	West Frankfort (Tilly)	Water Supply
11	7.5	208	495	West Frankfort (Stevens)	Water Supply
12	10.6	335	3,400	Washington Lake	Conservation
13	1.1	100	100	I.C. Reservoir	Railroad service
14	10	1,075	590	Du Quoin Reservoir	Water supply
15	5.5	190	670	Pinckneyville Lake	Water supply
16	3.0	145	392	Carbondale Reservoir	Water supply
17	1.4	62	93	Elkville Reservoir	Water supply
18	3.0	175	500	Murphysboro Lake	Recreation
19	73	2,700	18,000	Lake Kinkaid	Recreation
20	66	1,560	13,400	Cedar Creek Reservoir	Carbondale water supply
21	2.2	45	155	Carterville Reservoir	Water supply
22	3.1	56	350	Herrin Reservoir No.2	Water supply
23	3.8	88	111	Johnston City Reservoir	Water supply
24	6.5	110	400	Marion Reservoir	Water supply
25	0.4	67	220	Marion Country Club	Water supply
26	215	6,579	21,186	Crab Orchard Lake	Recreation and supply
27	15.1	1,000	8,417	Little Grassy Lake	Recreation and supply
28	18.3	810	9,730	Devil's Kitchen Lake	Recreation and supply

*See previous page for reservoir location
(See reference 19)

Ground Water Supplies (8)

Principal aquifers in Illinois are unconsolidated sand and gravel formations of glacial drift deposits; partially cemented sandstones of Pennsylvanian, Mississippian, Ordovician, or Cambrian age; and consolidated deposits of creviced limestone or dolomite of Mississippian, Devonian, Silurian, and Ordovician rocks.

Recharge to these aquifers is primarily from precipitation percolating downward from the land surface. Sub-surface flow of ground water from other rock units and surface water infiltration from intersecting streams or lakes may contribute appreciable amounts of additional recharge. In places, liquid waste from surface storage or disposal areas also may add sizable amounts of recharge to shallow aquifers. The rate of water travel through the aquifer is very slow in comparison with that of overland water flow. Under normal hydraulic gradients, ground water may travel only a few feet a day through sand and gravel or creviced limestone and dolomite, and only a few feet a year through sandstone and other fine-grained deposits such as clay and shale.

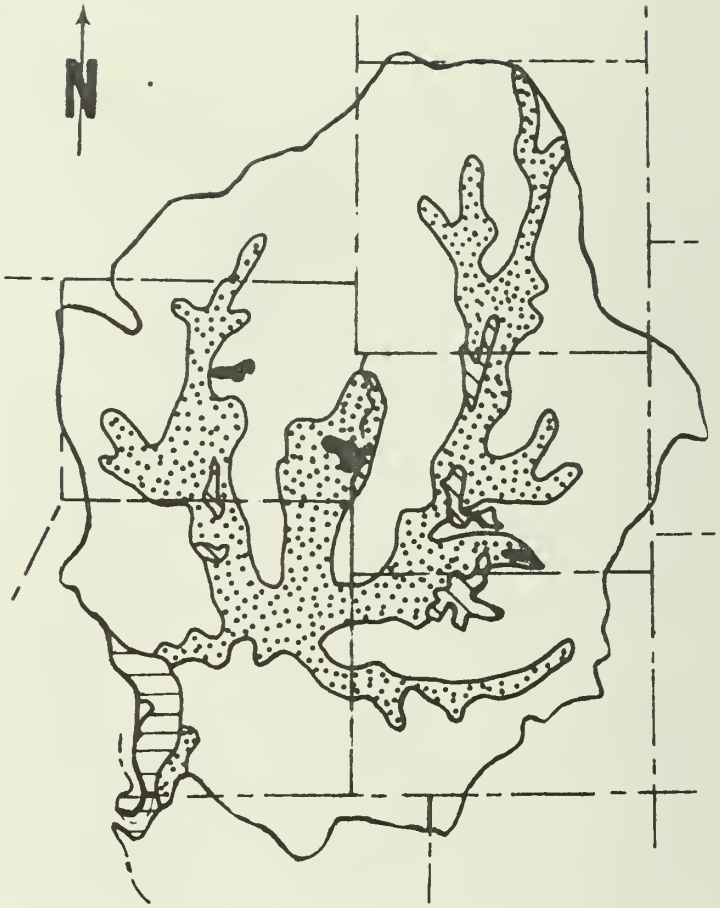
Shallow aquifers that intersect or lie near ground level readily receive, store, and transmit recharge downgradient from points of entry to natural discharge areas or nearby pumping centers. Deeply buried waterbearing units overlain by relatively impermeable shale or clay beds generally are effectively sealed from the surface. These must receive most of their recharge in outcrop areas of the aquifers.

Unconsolidated Aquifers (8)

Unconsolidated aquifers generally are contained within those parts of Illinois that were covered with permeable drift or outwash deposits by Wisconsinan glaciers. The surficial aquifers usually consist of very permeable sand and gravel capable of producing from about 100 to more than 500 gpm to properly constructed wells (see Figure 13).

Waterbearing formations in those parts of the state covered only by Illinoian glacial deposits are generally thinner and less permeable than those of the Wisconsinan deposits, and wells capable of producing in excess of 20 gpm are rare. A large number of the wells in these areas are less than 50 feet deep and are of the large-diameter dug type lined with uncemented brick.

FIGURE 13



Source: ISWS

Scale of Miles

0 10 20 30

EXPLANATION

AREAS WHERE MUNICIPAL AND INDUSTRIAL WATER SUPPLIES ARE USUALLY DEVELOPED FROM OTHER SOURCES

AREAS UNDERLAIN BY PRINCIPAL SAND AND GRAVEL AQUIFER AT LEAST 15 FEET THICK WHERE CHANCES OF OBTAINING WELLS WITH YIELDS OF

20 GPM OR MORE ARE GOOD

100 GPM OR MORE ARE GOOD

500 GPM OR MORE ARE GOOD

LOCATION OF OTHER POSSIBLE SAND AND GRAVEL AQUIFERS WHERE SMALL INDUSTRIAL AND MUNICIPAL WELL DEVELOPMENT MAY BE POSSIBLE AND CHANCES OF OBTAINING WELLS WITH YIELDS OF

20 GPM OR MORE ARE POSSIBLE

100 GPM OR MORE ARE POSSIBLE

(See reference 7)

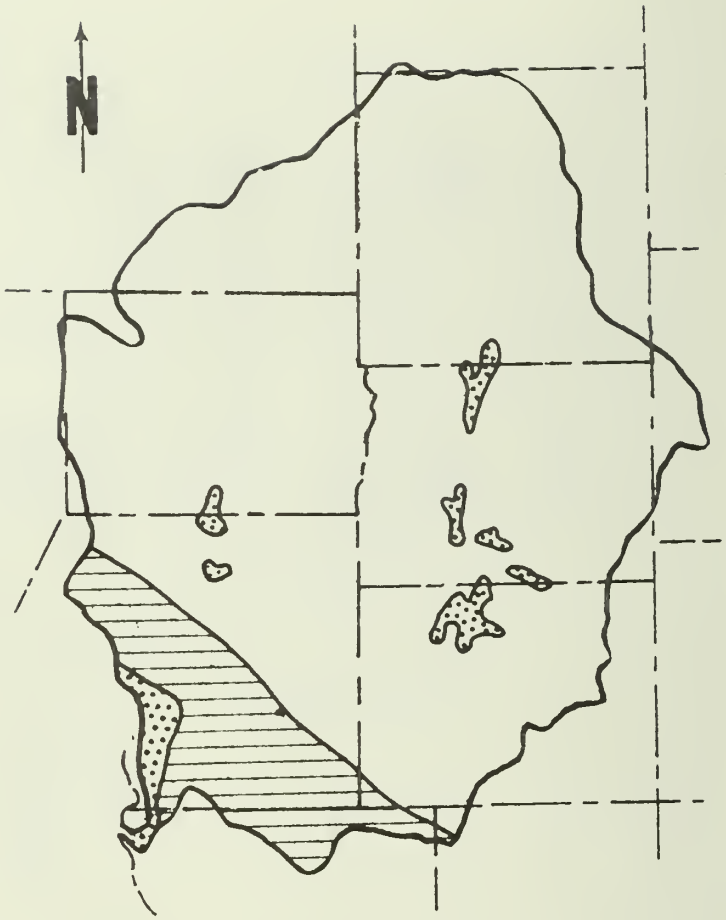
SAND AND GRAVEL WELL YIELDS IN BIG MUDDY RIVER BASIN

Bedrock Aquifers (8)

Bedrock aquifers in western and southern Illinois generally are outcrop areas of creviced Mississippian limestone; and in the northern part of the state consist of shallow dolomite formations of Silurian and Ordovician age. Wells tapping the limestones usually yield less than 20 gpm, whereas chances are good for obtaining wells with yields of 100 gpm or more from the shallow dolomites (see Figure 14). Wells tapping Pennsylvanian shale, sandstone, and limestone formations produce limited quantities of water, mostly for farm use, but yields in excess of 10 gpm are rare and dry holes are not uncommon. Also, highly mineralized water outflowing from deeper buried parts of the aquifers may be obtained from shallow wells in these areas.

FIGURE 14

Source: ISWS



Scale of Miles

0 10 20 30

EXPLANATION

YIELDS OF WELLS IN SHALLOW DOLOMITES AN: MISSISSIPPIAN AND PENNSYLVANIAN AQUIFERS

CHANCES OF OBTAINING A WELL WITH A YIELD OF

20 GPM OR MORE FROM MISSISSIPPIAN LIMESTONES AND SANDSTONES IS POOR

10 GPM OR MORE FROM PENNSYLVANIAN SANDSTONE AND LIMESTONES ARE POOR

GEOLOGIC CONDITIONS GENERALLY FAVOR DEVELOPMENT OF UNCONSOLIDATED DEPOSITS

(See reference 7)

BEDROCK WELL YIELDS IN BIG MUDDY RIVER BASIN

Ground Water Pollution Potential (8)

Pollution is defined as an impairment of water quality by chemicals, heat, or bacteria to a degree that does not necessarily create an actual public health hazard, but that does adversely affect such waters for normal domestic, farm, municipal, or industrial use. The term contamination denotes impairment of water quality by chemical or bacterial pollution to a degree that creates an actual hazard to public health through poisoning or spread of disease.

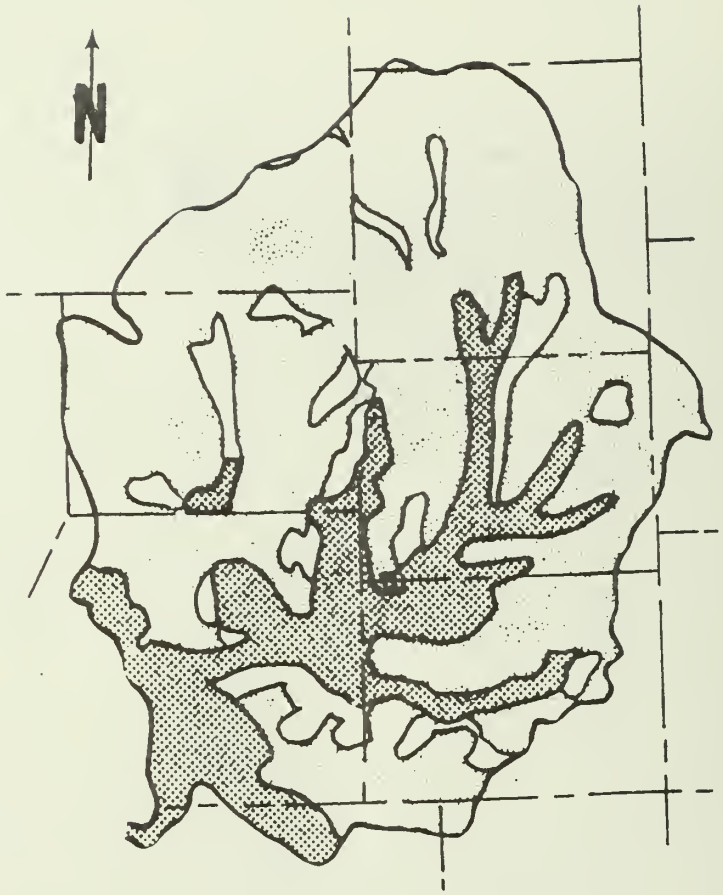
Figure 15 roughly outlines areas in Illinois where there may be danger of aquifer pollution now or in the future. Maps developed from the relatively limited information available, and to the scale presented, may not include many small, and as yet undefined, areas of high contamination potential. Field application of information contained in these maps should be accompanied in every case by a detailed evaluation of actual field geohydrologic conditions affecting the entry of surface contaminants at that particular site.

Outcrop areas of sand and gravel, sandstone, dolomite, and limestone aquifers as defined by Horberg, Weller, and Willman were the primary controls used to delineate areas of high, moderate, and low contamination potential shown on the map in Figure 15. Other information used included drillers' logs, records of wells, chemical analyses of water samples, temperature data, and recorded case histories of heat, chemical, and bacterial pollution from the files of the water survey, public health department, and geological survey.

Aquifer Contamination Potential (8)

Shallow limestone aquifers are extensively tapped as a source of dependable ground water supply for domestic, farm, and small town or industrial use in parts of western and southern Illinois. Primary recharge areas of these aquifers are usually visible as numerous sinkholes and large surface depressions. Recharge is from precipitation that enters the aquifers through well-developed systems of subterranean solution cracks and cervices connected to the bottoms of the surface depressions. Many wells tapping the limestones produce turbid ground water with high bacterial counts within only a few hours following periods of heavy rainfall, indicating that overland runoff is capable of moving quickly from the recharge areas with little or no sedimentation or filtration occurring in the aquifer system. When it is considered that the recharged water may have entered the aquifer several thousands

FIGURE 15



Source: ISWS

Scale of Miles

0 10 20 30

Groundwater
Pollution
Potential
(See reference 8)

High

Moderate

Low

GROUNDWATER POLLUTION POTENTIAL IN BIG MUDDY RIVER BASIN

of feet away from the wells, and that prior to entering the aquifer it may have flowed over garbage or waste dumps, through barnlots and livestock feeder stations, across heavily cultivated and fertilized farmland, or from urbanized developments utilizing septic tanks for sewage disposal, it follows that the potential is great for serious ground water contamination in such water bearing units.

In all cases of this type a certain indication of potential contamination from surface sources is a marked increase in ground water turbidity following heavy rainfall periods. For this reason, limestone or dolomite wells producing turbid water at any time should as a matter of course be suspected of contamination, and all water from these installations should be chlorinated before being used for drinking.

Deeply buried parts of aquifers may be relatively free of contamination derived from surface sources, providing wells and test holes tapping these units are properly sealed. In the outcrop areas, however, waterborne contamination can directly enter exposed or thinly covered limestone and dolomite beds through systems of solutionized cracks and crevices. Surface-derived contaminants gain easy access to shallow sandstone or sand and gravel formations through interconnected uncemented pore spaces.

Land Use (9)

Illinois is one of the more populous states. Four-fifths of the total population is clustered into ten Standard Metropolitan Statistical Areas (SMSAs). Eighty-three percent of the state's total population is accounted for by urban population.

Rural activities are the dominant land use in the state, with the growing of crops being the dominant rural land use. The major crop is soybeans followed in order by corn, wheat, and hay (Illinois Cooperative Crop Reporting Service, 1974). However, during the time that the data used in this study, 1945-1971, were collected, the principle crop order was corn, soybeans, hay, and wheat (U.S. Bureau of the Census 1971b). The distribution of cropland is somewhat denser in the central and northern parts of the state than in the southern and western parts.

Woodlands and forests cover approximately ten percent of Illinois. Their density is greatest in the southern and western parts of the state. Densities of less than five percent are typical for the central and northern parts (Board of Economic Development, 1960).

Grazing lands are generally confined to the more hilly regions. They comprise approximately nine percent of the total land, and are most dense in the northwest, west, and south.

The quarrying of sand and gravel and the mining of coal are two additional significant uses of rural land. Sand and gravel quarrying occurs near major urban centers, principally Chicago. Extensive coal mining occurs in the Pennsylvanian bedrock of Illinois. Strip mining is the dominant recovery process along the outcrop margins of the Pennsylvanian strata, and underground mining is the dominant recovery process elsewhere. Illinois is the fourth ranked state in coal production (U.S. Bureau of Mines, 1972).

The total land area of counties partially included in the Big Muddy River Basin is 1,586,320 acres, including 97,734 acres of urban built-up areas; 800,302 acres of cropland; 233,601 acres of pasture; 302,462 acres of forest; and 74,960 acres of other land (see Table 9).

TABLE 9

LAND USE SUMMARY
BIG MUDDY RIVER BASIN
(All Values in Acres)

Principal counties in basin	INVENTORIED				NON INVENTORIED			
	Cropland	Pasture	Woodland	Other land	Federal non cropland	Urban and built up	Small water areas	Total
Franklin	170,713	37,169	40,119	3,148	9,016	17,043	552	277,760
Jackson	151,795	54,784	113,218	21,989	30,756	12,458	800	385,800
Jefferson	222,038	57,883	44,528	8,297	13,704	20,510	400	367,360
Perry	178,068	32,790	35,697	16,604	0	19,441	900	283,500
Williamson	77,688	50,975	68,900	24,922	22,800	25,282	1,333	271,900

(See reference 9)

Inventoried

Cropland includes all field crops, hayland, idle land, conservation use, and orchard land.

Pastureland includes land in grass or other long-term forage used primarily for grazing. It does not include rotation hay and pasture nor grazed woodland.

Woodland includes both commercial and non-commercial forestland. It is land at least 10 percent stocked by forest trees of any size.

Other land includes both land in-farms and land not-in-farms which is not used as cropland, pastureland, or forestland.

Non-inventoried

The non-inventory acres excluded from the inventory consists of federal land not leased for crops, urban-builtup land and water areas. The excluded water areas are ponds from 2 to 40 acres in size and streams less than 1/8 mile wide. Larger water areas were excluded from the total land areas.

Soil Erosion/Management Needs

Water quality in all streams in the state is appreciably affected by dissolved and suspended matter carried to the streams by runoff from the land surface. Two nonpoint sources which affect the water quality at all water quality sampling stations during all or part of the year are identified here as agricultural runoff and soil erosion. Other major nonpoint sources which contribute to water quality through the rainfall-runoff process but which affect only certain identifiable areas of the state are runoff from active and abandoned coal mining areas, intensive livestock and specialized agricultural operations, and storm drainage from urbanized areas and construction sites.

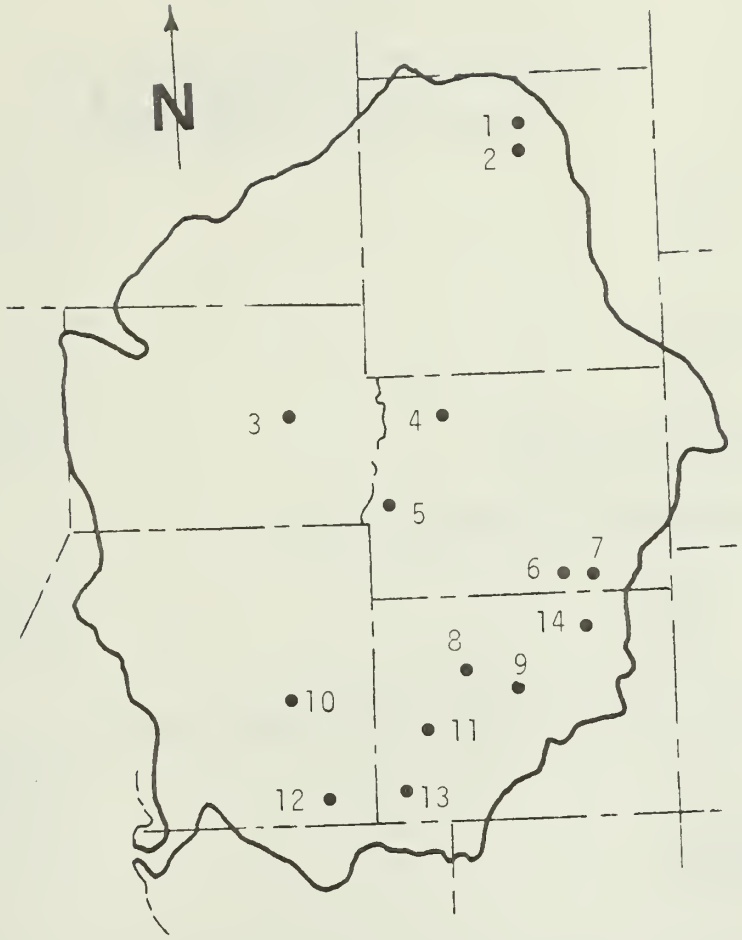
Agricultural runoff is considered in its broadest sense to include all runoff due to ordinary precipitation events. This runoff contains many contaminants, some in amounts which exceed water quality standards, from the ground surface and ground cover which have accumulated due to natural processes and non-intensive land husbandry. This runoff contains organic materials which are oxygen demanding, minerals derived from the soil or applied by man, fecal coliform, pesticides, herbicides, fertilizers, and other chemicals.

Soil erosion, as used here, results from runoff due to rainfall of sufficient intensity to scour the soil from the land surface. The severity and frequency of soil erosion is variable among events because of the conditions existing at a given time, such as the intensity of immediate rainfall, prior climatic conditions, soil cover, soil texture, and antecedent human activities. Eroded soil submits dissolved and suspended matter to the flowing water. The topsoil contains nutrients, organic matter, and many minerals and chemicals. Eroding subsoil contains iron and heavy metals. Eroding soil causes frequent iron violations at many of the water quality stations and has the potential of causing violations at all stations. Copper is found in the soil over most of the state. Other metals are found in certain areas.

Suspended matter in agricultural runoff and eroded soil, including soil eroded by wind, is deposited in stream and lake beds. The location of sedimentation surveys conducted in the Big Muddy River Basin and a summary of data appears in Figure 16 and Tables 10-25.

The deposited soil can bury aquatic life, create an oxygen demand, and release nutrients and chemicals to the flowing stream or overlying lake water on a continuing basis. Material carried in agricultural runoff and from soil erosion does not maintain

FIGURE 16



Scale of Miles

0 10 20 30

EXPLANATION

10 • Location of Sedimentation Survey And Map Code Number Where Data Are Given On Following Pages (See reference 20)

Source: ISWS

SEDIMENTATION SURVEYS FOR RESERVOIRS LARGER THAN 50 ACRES IN BIG MUDDY RIVER BASIN

TABLE 10

SUMMARY OF SEDIMENTATION DATA
LAKE MILLER
Mount Vernon, Illinois

	Quantity	Units
AGE 1/	9.6	Years
WATERSHED		
Total Area 2/	4.65	Sq. Miles
	2976	Acres
RESERVOIR		
Area at spillway level	147	Acres
Storage capacity at spillway level		
1944	1599	Acre-feet
	521	Mil. Gal.
1953	1535	Acre-feet
	500	Mil. Gal.
Capacity per square mile of drainage area 2/		
1944	344	Acre-feet
1953	330	Acre-feet
SEDIMENTATION		
Total sediment	64	Acre-feet
	21	Mil. Gal.
Average annual accumulation		
From entire watershed	6.7	Acre-feet
Per square mile 3/	1.51	Acre-feet
Per acre 3/	103	Cubic-feet
Tons per acre 4/	2.4	Tons
DEPLETION OF STORAGE		
Loss of original capacity-total	4.0	Per cent
Loss of original capacity per year	0.42	Per cent

1/ Storage began in February 1944
Date of this survey - September, 1953

2/ Including area of lake

3/ Excluding area of lake

4/ Based on two samples, average specific weight of sediment equals 47.2 lbs. per cubic foot

Illinois State Water Survey Division
Urbana, Illinois

TABLE 10 (Cont.)

Average Annual Accumulation		
From entire watershed		
1935 - 1951	4.8	Acre-feet
1951 - 1962	4.3	Acre-feet
1935 - 1962	4.6	Acre-feet
1954 - 1962	4.1	Acre-feet
Per square mile2/		
1935 - 1951	2.4	Acre-feet
1951 - 1962	2.1	Acre-feet
1935 - 1962	2.3	Acre-feet
1954 - 1962	2.0	Acre-feet
Per acre2/		
1935 - 1951	163	Cubic-feet
1951 - 1962	145	Cubic-feet
1935 - 1962	156	Cubic-feet
1954 - 1962	139	Cubic-feet
Tons per acre3/		
1935 - 1951	4.1	Tons
1951 - 1962	3.8	Tons
1935 - 1962	4.0	Tons
1954 - 1962	3.6	Tons
DEPLETION OF STORAGE		
Loss of original capacity total		
1935 - 1951	20.0	Percent
1951 - 1962	12.2	Percent
1935 - 1962	32.2	Percent
1954 - 1962*	8.7	Percent
Loss of original capacity per year		
1935 - 1951	1.25	Percent
1951 - 1962	1.11	Percent
1935 - 1962	1.19	Percent
1954 - 1962*	1.09	Percent

1/ Including area of lake

2/ Excluding area of lake

3/ Average specific weight of sediment is 50 pounds per feet^3 for 1935 to 1951 and 51.7 pounds per feet^3 for 1951-62, based on 12 samples taken in 1962.

* Estimated 1954 capacity was used for the original capacity for the time period 1954 to 1962 during which time the spillway elevation was 640.5.

** In Augsut 1954, the spillway elevation was raised from 638.0 to 640.5

TABLE 11

SUMMARY OF SEDIMENTATION DATA
Lake Miller - Mt. Vernon

	Quantity	Units
AGE 1/	16.3	Years
WATERSHED		
Total Area 2/	4.65	Sq. Miles
	2,976.0	Acres
RESERVOIR		
Area at spillway level	142.1	Acres
Storage capacity at spillway level		
1944	1,746.4	Acre-feet
	569.0	Mil. Gal.
1960	1,658.8	Acre-feet
Capacity per square mile of drainage area 2/		
1944	375.6	Acre-feet
1960	356.7	Acre-feet
SEDIMENTATION		
Total sediment	87.7	Acre-feet
	28.6	Mil. Gal.
Average annual accumulation		
From entire watershed	5.37	Acre-feet
Per square mile 3/	1.21	Acre-feet
Per acre 3/	82.5	Cubic-feet
Tons per acre 4/	1.57	Tons
DEPLETION OF STORAGE		
Loss of original capacity-total	5.02	Per cent
Loss of original capacity per year	0.31	Per cent

1/ Storage began in Feb. 1944
Date of this survey June 1960

2/ Including area of lake

3/ Excluding area of lake

4/ Average specific weight of sediment is 38.0 pounds per cubic foot based on 16 samples taken in 1960.

Illinois State Water Survey
Urbana, Illinois

TABLE 12

SUMMARY OF SEDIMENTATION DATA
For Illinois Cities Water Co. Res. #2
Mt. Vernon

	Quantity	Units
AGE		
1909-1925	16	Years
1925-1959	34	Years
WATERSHED		
Total Area	2.61	Sq. Miles
	1,670.4	Acres
RESERVOIR		
Area at spillway level	100.6	Acres
Storage capacity at spillway level		
1909	600.2	Acre-feet
	195.6	Mil. Gal.
1924	545.3	Acre-feet
	177.7	Mil. Gal.
1925	1,201.2	Acre-feet
	391.4	Mil. Gal.
1959	1,084.4	Acre-feet
	353.4	Mil. Gal.
Capacity per square mile of drainage area2/		
1909	230	Acre-feet
1924	209	Acre-feet
1925	460	Acre-feet
1959	415	Acre-feet
SEDIMENTATION		
Total sediment (1909-1924)	54.9	Acre-feet
	17.9	Mil. Gal.
(1925-1959)	116.8	Acre-feet
	38.1	Mil. Gal.
Average annual accumulation		
From entire watershed	3.44	Acre-feet
Per square mile3/	1.40	Acre-feet
Per acre3/	95.4	Cubic-feet
Tons per acre4/	2.38	Tons
DEPLETION OF STORAGE		
Total loss of 1909 capacity 1909-1925	9.15	Per cent
Total loss of 1925 capacity 1925-1959	9.73	Per cent

TABLE 13

SUMMARY OF SEDIMENTATION DATA
Lake DuQuoin

	Quantity	Units
AGE 1/	18	Years
WATERSHED		
Total Area 2/	10.73	Sq. Miles
	6867	Acres
RESERVOIR		
Area at spillway level	244	Acres
Storage capacity at spillway level		
1937	1779	Acre-feet
	580	Mil. Gal.
1954	1667	Acre-feet
	543	Mil. Gal.
Capacity per square mile of drainage area 2/		
1937	166	Acre-feet
1954	155	Acre-feet
SEDIMENTATION		
Total sediment	112	Acre-feet
	37	Mil. Gal.
Average annual accumulation		
From entire watershed	6.24	Acre-feet
Per square mile 3/	0.60	Acre-feet
Per acre 3/	41	Cubic feet
Tons per acre 4/	0.71	Tons
DEPLETION OF STORAGE		
Loss of original capacity-total	6.31	Per cent
Loss of original capacity per year	0.35	Per cent

1/ Storage began in 1937
Date of this survey 1954

2/ Including area of lake

3/ Excluding area of lake

4/ Average specific weight of sediment is 34.6 pounds per cubic foot based on two samples taken in 1954.

Illinois State Water Survey Division
Urbana, Illinois

TABLE 14

SUMMARY OF SEDIMENTATION DATA
For Valier Cuting Club Res.

	Quantity	Units
AGE1/	35.1	Years
WATERSHED		
Total Area 2/	2.47	Sq. Miles
	1580	Acres
RESERVOIR		
Area at spillway level	67	Acres
Storage Capacity at spillway level		
1922	369	Acre-feet
	120	Mil. Gal.
1957	320	Acre-feet
	104	Mil. Gal.
Capacity per square mile of drainage area2/		
1922	150	Acre-feet
1957	130	Acre-feet
SEDIMENTATION		
Total sediment	49	Acre-feet
	16	Mil. Gal.
Average annual accumulation		
From entire watershed	1.40	Acre-feet
Per square mile 3/	0.59	Acre-feet
Per acre3/	40.3	Cubic-feet
Tons per acre4/	0.79	Tons
DEPLETION OF STORAGE		
Loss of original capacity-total	13.32	Per cent
Loss of original capacity per year	0.38	Per cent

1/ Storage began in June 1922
Date of this survey Aug. 1957

2/ Including area of lake

3/ Excluding area of lake

4/ Average specific weight of sediment is 41.2 pounds per cubic foot based on 8 samples taken in Aug. 1957

Illinois State Water Survey
Urbana, Illinois

TABLE 15

SUMMARY OF SEDIMENTATION DATA
Christopher City Reservoir

	Quantity	Units
AGE1/	35	Years
WATERSHED		
Total Area2/	0.93	Sq. Miles
	592.0	Acres
RESERVOIR		
Area at spillway level	43.2	Acres
Storage capacity at spillway level		
1925	383.9	Acre-feet
	125.1	Mil. Gal.
1960	353.6	Acre-feet
	115.2	Mil. Gal.
Capacity per square mile of drainage area2/		
1925	412.8	Acre-feet
1960	380.2	Acre-feet
SEDIMENTATION		
Total sediment	30.4	Acre-feet
	9.9	Mil. Gal.
Average annual accumulation		
From entire watershed	0.87	Acre-feet
Per square mile3/	1.01	Acre-feet
Per acre3/	69.1	Cubic-feet
Tons per acre4/	1.31	Tons
DEPLETION OF STORAGE		
Loss of original capacity-total	7.90	Per cent
Loss of original capacity per year	0.23	Per cent

1/ Storage began in 1925
Date of this survey July 1960

2/ Including area of lake

3/ Excluding area of lake

4/ Average specific weight of sediment is 38.0 pounds per cubic foot based on 5 samples taken in 1961.

Illinois State Water Survey
Urbana, Illinois

TABLE 16

Summary of Sedimentation Data
West Frankfort Reservoir, West Frankfort, Illinois

		Quantity	Units
Age:[1]	1926-1936	10.1	Years
	1936-1949	12.8	Years
	1926-1949	22.9	Years
Watershed, total area:[2]		4.03	Square miles
		2581	Acres
Reservoir			
Area at crest level:[3]	1926	182.6	Acres
	1936	182.6	Acres
	1949	182.6	Acres
Storage capacity at crest level:[3]	1926	1608.4	Acre-feet
	1936	1515.0	Acre-feet
	1949	1487.8	Acre-feet
Storage per square mile of drainage area:	1926	399.	Acre-feet
	1936	376.	Acre-feet
	1949	369.	Acre-feet
Sedimentation			
Total sediment accumulation:	1926-1936	93.3	Acre-feet
	1936-1949	44.8[4]	Acre-feet
	1926-1949	120.5	Acre-feet
Average annual rate of accumulation			
From entire drainage area:	1926-1936	9.26	Acre-feet
	1936-1949	3.49	Acre-feet
	1926-1949	6.02	Acre-feet
Per square mile:[5]	1926-1936	2.45	Acre-feet
	1936-1949	0.93	Acre-feet
	1926-1949	1.61	Acre-feet
Per acre:	1926-1936	168.2	Cubic feet
	1936-1949	63.4	Cubic feet
	1926-1949	109.4	Cubic feet
Tons per acre:[6]	1926-1936	6.12	Tons
	1936-1949	2.32	Tons
	1926-1949	4.00	Tons
Depletion of Storage			
Loss of original capacity per year:	1926-1936	0.58	Per cent
	1936-1949	0.13	Per cent
	1926-1949	0.33	Per cent
Total loss of original capacity:	1926-1936	5.80	Per cent
	1936-1949	1.69	Per cent
	1926-1949	7.45	Per cent

1. Storage began August, 1926. Date of first survey was August 19 to September 12, 1936. Date of second survey was June 28 to July 7, 1949.
2. Including area of lake.
3. Original elevation of spillway crest was 439.00 m. s. l. In April 1943 crest was raised to 441.77 m. s. l. Survey results are calculated using the latter (present) elevation.
4. Net increase in sediment volume, 1936-1949 was 27.2 acre-feet. In 1949, however, the 93.3 acre-feet of sediment deposited prior to 1936 had compacted, due to exposure to air, to 75.7 acre-feet. Thus the actual volume of sediment deposited 1936-1949 was 44.8 acre-feet.
5. Excluding area of lake.
6. Average specific weight of sediment in 1936: 73 pounds per cubic foot.
Average specific weight of sediment in 1949: 83.7 pounds per cubic foot.

TABLE 17

MAP CODE 6

Summary of Sedimentation Data. West Frankfort Reservoir, West Frankfort, Illinois, 1936.

	Quantity	Unit
1/ Age:	10.0	Years
Watershed:		
Total area	3.79	Square Miles
	2,427	Acres
Reservoir:		
Original area at crest stage...	159	Acres
Present area at crest state....	159	Acres
Original storage capacity.....	1,175	Acre-feet
Present storage capacity.....	1,080	Acre-feet
Original storage per square mile of drainage area.....	310.03	Acre-feet
Present storage per square mile of drainage area.....	284.96	Acre-feet
Original storage per acre of drainage area.....	5.81	Acre-feet
Present storage per acre of drainage area.....	5.34	Acre-inches
Sedimentation:		
Delta deposits.....	Not measured separately	
Bottom-set beds.....)		
Total sediment.....	95	Acre-feet
Accumulation per year average..	9.5	Acre-feet
Accumulation per year per 100 square miles drainage area....	251	Acre-feet
Accumulation per year per acre of drainage area.....	170.51	Cubic feet
Or, assuming average weight of one cubic foot of silt is 100 pounds.....	8.52	Tons
Depletion of storage:		
Loss of original capacity per year	0.81	Percent
Loss of original capacity to date of survey.....	8.09	Percent

1/ Date storage began: August 1926.
Date of this survey: August 19 to September 12, 1936.

TABLE 18

SUMMARY OF SEDIMENTATION DATA
New West Frankfort Reservoir

	Quantity	Units
AGE1/	15	Years
WATERSHED		
Total Area2/	7.62	Sq. Miles
	4,878.0	Acres
RESERVOIR		
Area at spillway level	213.5	Acres
Storage capacity at spillway level		
1945	2,654.7	Acre-feet
	865.0	Mil. Gal.
1960	2,390.8	Acre-feet
	779.0	Mil. Gal.
Capacity per square mile of drainage area2/		
1945	348.4	Acre-feet
1960	313.8	Acre-feet
SEDIMENTATION		
Total sediment	263.8	Acre-feet
	86.0	Mil. Gal.
Average annual accumulation		
From entire watershed	17.6	Acre-feet
Per square mile3/	2.4	Acre-feet
Per acre3/	157.0	Cubic-feet
Tons per acre4/	2.75	Tons
DEPLETION OF STORAGE		
Loss of original capacity-total	9.93	Per cent
Loss of original capacity per year	0.66	Per cent

1/ Storage began in 1945
Date of this survey July 1960

2/ Including area of lake

3/ Excluding area of lake

4/ Average specific weight of sediment is 35.3 pounds per cubic foot based on 9 samples taken in 1961.

Illinois State Water Survey
Urbana, Illinois

TABLE 19 MAP CODE 8

SUMMARY OF SEDIMENTATION DATA
HERRIN RESERVOIR NO. 2
HERRIN, ILLINOIS

	Quantity	Units
AGE 1/		
1926-1936	9.3	Years
WATERSHED		
Total Area 2/	3.13	Sq. Miles
	2000	Acres
RESERVOIR		
Area at spillway level	56	Acres
Storage capacity at spillway level		
1926	804	Acre-feet
	263	Mil. Gal.
1936	704	Acre-feet
	230	Mil. Gal.
Capacity per square mile of drainage area 2/		
1926	257	Acre-feet
1936	225	Acre-feet
SEDIMENTATION		
Total Sediment	100	Acre-feet
Average annual accumulation		
From entire watershed	10.8	Acre-feet
Per square mile 3/	3.4	Acre-feet
Per acre 3/	233	Cubic-feet
Tons per acre 4/	7.0	Tons
DEPLETION OF STORAGE		
Loss of original capacity - total	12.4	Per cent
Loss of original capacity per year	1.3	Per cent

1/ Storage began in February 1926
Dam failed June 1935; repaired June 1936
Date of this survey May 12-13,1936

2/ Including area of lake

3/ Excluding area of lake

4/ Assuming sediment weighs 60 pounds per cubic foot.

TABLE 20 MAP CODE 9

SUMMARY OF SEDIMENTATION DATA
MARION RESERVOIR
MARION, ILLINOIS

	Quantity	Units
AGE 1/	30	Years
WATERSHED		
Total Area 2/	6.48	Sq.Miles
	4150	Acres
RESERVOIR		
Area at spillway level	110	Acres
Storage capacity at spillway level		
1921	705	Acre-feet
	231	Mil.Gal.
1951	590	Acre-feet
	193	Mil.Gal.
Capacity per square mile of drainage area 2/		
1921	109	Acre-feet
1951	91	Acre-feet
SEDIMENTATION		
Total sediment	115	Acre-feet
	38	Mil.Gal.
Average annual accumulation		
From entire watershed	3.8	Acre-feet
Per square mile 3/	0.59	Acre-feet
Per acre 3/	40	Cubic-feet
Tons per acre 4/	0.72	Tons
DEPLETION OF STORAGE		
Loss of original capacity - total	16.4	Per cent
Loss of original capacity per year	0.55	Per cent

1/ Storage began in 1921
Date of this survey July 20, 1951

2/ Including area of lake

3/ Excluding area of lake

4/ Average specific weight of sediment = 34.5 pounds per cubic foot based on five samples taken in 1951

TABLE 21

SUMMARY OF SEDIMENTATION DATA
Carbondale, Illinois

	Quantity	Units
AGE1/		
1926-1948	22.1	Years
WATERSHED		
Total Area	3.00	Sq. Miles
	1920	Acres
RESERVOIR		
Area at spillway level		
1926	144	Acres
1948	144	Acres
Storage capacity at spillway level		
1926	1386	Acre-feet
	(453.2	Mil. Gal.)
1948	1193	Acre-feet
	(389.9	Mil. Gal.)
Capacity per sq. mile of drainage area2/		
1926	462	Acre-feet
1948	398	Acre-feet
SEDIMENTATION		
Total sediment		
1926-1948	193	Acre-feet
Average annual accumulation		
From entire drainage area		
1926-1948	8.8	Acre-feet
Per sq. mile of drainage area3/		
1926-1948	3.15	Acre-feet
Per acre of drainage area3/		
By volume		
1926-1948	215	Cubic feet
By weight4/		
1926-1948	7.94	Tons/acre

TABLE 21 (Cont.)

SUMMARY (Contd.)
Carbondale, Illinois

	Quantity	Units
DEPLETION OF STORAGE		
Loss of original capacity		
Per year		
1926-1948	0.63	Per cent
Total		
1926-1948	13.94	Per cent

1/ Storage began in August, 1926. Date of survey September, 1948.

2/ Including area of lake.

3/ Excluding area of lake.

4/ Based on 13 volume-weight samples taken in 1947.

TABLE 22

SUMMARY OF SEDIMENTATION DATA
CRAB ORCHARD LAKE

Age	
Storage began in May 1940	
First Survey July 1951	11.2 Years
Second Survey June 1963	11.9 Years
Total Age	23.1 Years
WATERSHED	
Total land & Water area of basin	196 Sq. Mi.
Land Area	185 Sq. Mi.
	118,137 Acres
Sediment-contributing area (excludes smaller lake drainage areas within basin)	
Including Crab Orchard Lake Surface Area	171 Sq. Mi.
	109,261 Acres
Excluding Crab Orchard Lake Surface Area	160 Sq. Mi.
	102,296 Acres
RESERVOIR	
Area at spillway level	
Total	11.0 Sq. Mi.
	7013 Acres
Area of Islands-	48 Acres
Area of Water Surface	10.9 Sq. Mi.
	6965 Acres
Storage Capacity at Spillway Level	
1940	70,543 Ac.ft.
	22,985 M.G.
1951	67,117 Ac.ft.
	21,869 M.G.
1963	63,511 Ac.ft.
	20,694 M.G.
Capacity per Sq. Mi. of drainage Area	
1940	413 Ac.ft.
1951	392 Ac.ft.
1963	371 Ac.ft

SEDIMENTATION	
Total Sediment Volume	
1940-51	3426 Ac.ft.
	1116 M.G.
1951-63	3606 Ac.ft.
	1175 M.G.
1940-63	7032 Ac.ft.
	2291 M.G.
Average Unit Weight of Sediment	47.5 lbs./cu.ft.
Average Annual Accumulation	
Total	
1940-51	306 Ac.ft.
1951-63	303 Ac.ft.
1940-63	304 Ac.ft.
Per Square Mile	
1940-51	1.8 Ac.ft.
1951-63	1.8 Ac.ft.
1940-63	1.8 Ac.ft.
Per Acre	
1940-51	122 Cu.ft.
1951-63	121 Cu.ft.
1940-63	121 Cu.ft.
Tons per Acre	
1940-51	3.1 Tons
1951-63	3.1 Tons
1940-63	3.1 Tons
DEPLETION OF STORAGE	
Loss of original capacity per year	
1940-51	0.43 Per cent
1951-63	0.43 Per cent
1940-63	0.43 Per cent
Loss of original capacity total	
1940-51	4.86 Per cent
1951-63	5.11 Per cent
1940-63	9.97 Per cent

TABLE 23

MAP CODE 12

APPROXIMATE SUMMARY OF SEDIMENTATION DATA LITTLE GRASSY LAKE CARBONDALE, ILLINOIS

(Based on original capacity of 8540 Mil. Gal. as estimated on construction plans of Soil Conservation Service).

	Quantity	Units
AGE 1/	9.3	Years
WATERSHED 2/		
Total Area	15.1	Sq. Miles
	9664.	Acres
RESERVOIR 3/		
Surface Area	1000	Acres
Storage Capacity 3/		
1942	26116.2	Acre-feet
	8540	Mil. Gal.
1951	25740.6	Acre-feet
	8417	Mil. Gal.
Capacity per sq.mile of drainage area 2/		
1942	1730	Acre-feet
1951	1705	Acre-feet
SEDIMENTATION		
Total sediment	375.6	Acre-feet
	122.8	Mil. Gal.
Average annual accumulation		
From entire watershed	40.3	Acre-feet
Per square mile 4/	2.97	Acre-feet
Per acre 4/	202.3	Cubic-feet
Tons per acre 5/	3.72	Tons
DEPLETION OF STORAGE		
Loss of original capacity - total	1.44	Per cent
Loss of original capacity per year	0.14	Per cent

1/ Storage began in March, 1942.
Date of this survey - July 23 to 31, 1951.

2/ Including area of lake.

3/ At spillway crest elevation of 500 feet m.s.l. Entire summary based on original capacity of 8540 Mil. Gal. as taken from construction plans of Soil Conservation Service.

4/ Excluding area of lake.

5/ Average specific weight of sediment = 38.7 pounds per cubic foot based on two samples taken in 1951.

TABLE 24

SUMMARY OF SEDIMENTATION DATA
HERRIN RESERVOIR NO. 1
HERRIN, ILLINOIS

	Quantity	Units
AGE 1/		
1913-1951	38	Years
WATERSHED 2/		
Total Area	1.78	Sq. Miles
	1140	Acres
RESERVOIR		
Area at spillway level		
1913	37	Acres
1951	37 Acres	
Storage capacity at spillway level		
1913	199	Acre-feet
	65.0	Mil. Gal.
1951	178	Acre-feet
	58.2	Mil. Gal.
Capacity per square mile of drainage area 2/		
1913	112	Acre-feet
1951	100	Acre-feet
SEDIMENTATION		
Total sediment	21	Acre-feet
	6.8	Mil. Gal.
Average annual accumulation		
From entire watershed	0.55	Acre-feet
Per square mile 3/	0.32	Acre-feet
Per acre 3/	21.8	Cubic feet
Tons per acre	0.30	Tons
DEPLETION OF STORAGE		
Loss of original capacity - total	10.5	Per cent
Loss of original capacity - per year	0.28	Per cent

1/ Storage began in 1913.
Date of this survey - August 15, 1951.

2/ Including area of lake.

3/ Excluding area of lake.

4/ Average specific weight of sediment = 27.5 pounds per cubic foot from two samples taken in 1951.

TABLE 25

SUMMARY OF SEDIMENTATION DATA
For Johnson City Reservoir

	Quantity	Units
AGE1/	35	Years
WATERSHED		
Total Area2/	3.85	Sq. Miles
	2464	Acres
RESERVOIR		
Area at spillway level	64	Acres
Storage capacity at spillway level		
1922	471	Acre-feet
	154	Mil. Gal.
1957	394	Acre-feet
	129	Mil. Gal.
Capacity per square mile of drainage area2/		
1922	122	Acre-feet
1957	102	Acre-feet
SEDIMENTATION		
Total sediment	77	Acre-feet
	25	Mil. Gal.
Average annual accumulation		
From entire watershed	2.19	Acre-feet
Per square mile3/	0.58	Acre-feet
Per acre3/	39.7	Cubic-feet
Tons per acre4/	0.88	Tons
DEPLETION OF STORAGE		
Loss of original capacity-total	16.29	Per cent
Loss of original capacity per year	0.46	Per cent

1/ Storage began in 1922
Date of this survey Aug. 1957

2/ Including area of lake

3/ Excluding area of lake

4/ Average specific weight of sediment is 48.3 pounds per cubic foot based on 9 samples taken in Aug. 1957.

Illinois State Water Survey
Urbana, Illinois

its identity and move directly to the oceans. It may be deposited and resuspended many times or settle permanently at some location. During the process it mixes with other materials and chemical changes may occur. Soluble material can become insoluble and insoluble material can become soluble.

The following summary which has been extracted from the Illinois Soil and Water Conservation Needs Inventory-1970 indicates the extent of conservation needs in the state. It is apparent that most of the state needs conservation measures for improved agricultural productivity. These measures, if carried out for large areas, will definitely improve the quality of the water in the streams in those areas by a reduction in the contaminants which come from nonpoint sources, however the climate of Illinois and the continuation or increase in the agricultural productivity in the state will still cause violations of the current water quality standards even after most of the conservation needs are met.

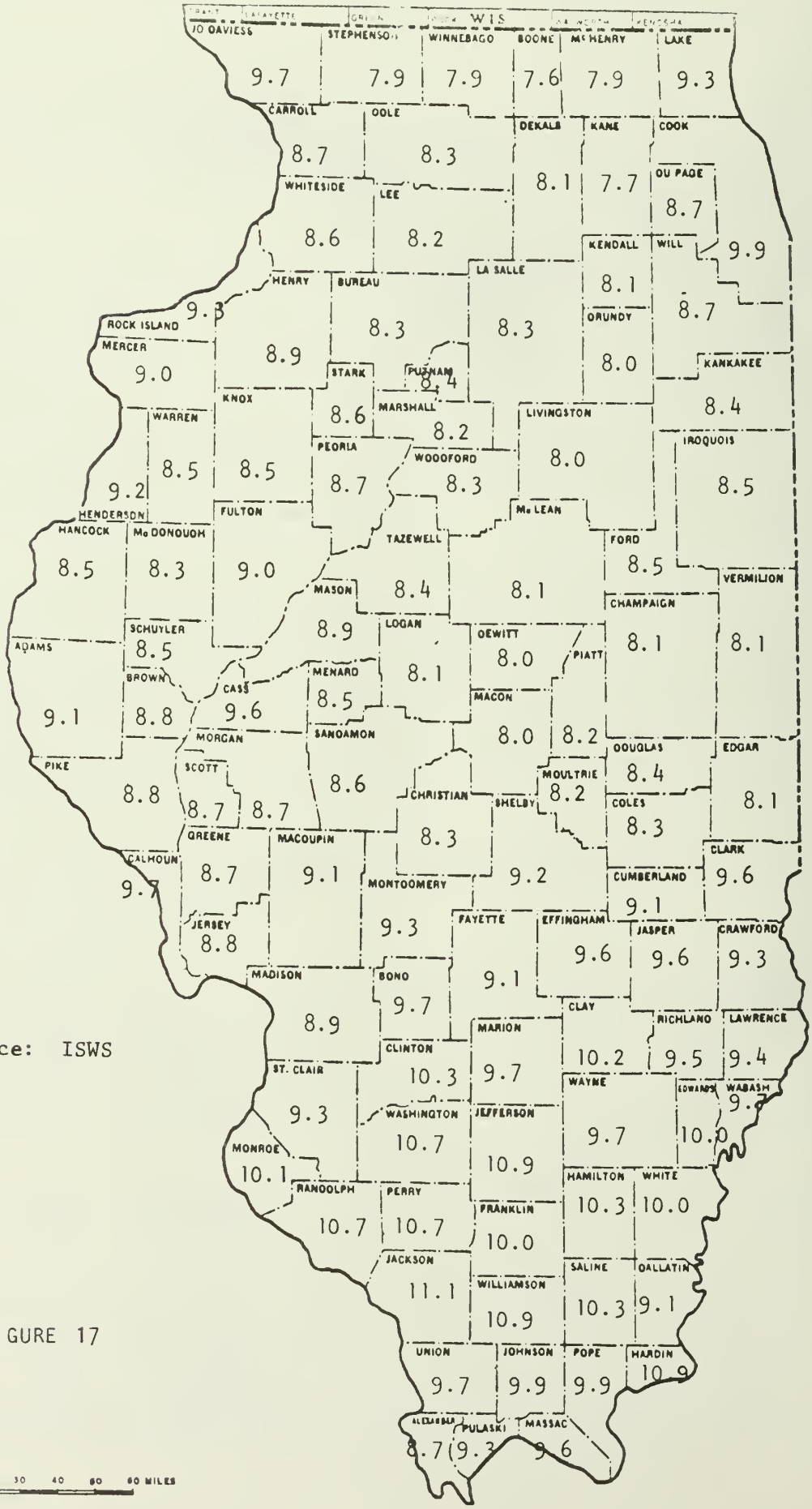
Illinois Soil and Water Conservation Needs Inventory, published in 1970 and prepared from data collected in prior years indicates the serious nature of soil erosion and the need for land treatment and watershed projects. The report indicates that about 75 percent of the area of the state is devoted to tilled crops and more than half of that area is in need of measures to reduce soil erosion. Soil erosion varies over the state. The annual average soil loss due to erosion on sloping cropland, evaluated by counties, varies from about 8 to about 11 tons per acre per year (See Figure 17).

The Inventory showed the following data pertaining to areas devoted to various land uses and need for conservation practices.

TABLE 26

			% of total Area
Total land area in Illinois excluding water areas over 40 acres	35,765,629	100	
Cropland	24,361,011	100	68.0
Cropland needing conservation measures	16,169,134	66	(45)
Non-inventory land			
Federal land, water areas 2 to 40 acres, urban uses	2,951,844		8.3
"Other"Land	1,522,507	100	4.3
Rural, not used for crops, pasture or forest			
Includes strip mined areas "Other" land needing treatment	534,684	30	(1.5)
Pasture	3,345,495	100	9.4
Pasture needing treatment	2,587,381	77	(7.2)
Forest land	3,584,772	100	10.0
Forest land needing treatment	3,046,611	85	(8.5
Total land needing erosion control			100.0 (61.6)

AVERAGE ANNUAL WATER EROSION IN TONS PER ACRE OF SLOPING CROPLAND



Source: ISWS

FIGURE 17

Summary of Needs

The Illinois Inventory of Soil and Water Conservation Needs shows the use and condition of our privately owned rural land today. The Inventory is part of a nation-wide study made on a county by county basis. U.S.D.A. and state agencies concerned with land use and conservation participated in the Inventory.

Land Use

Most Illinois land is used for tilled crops. Approximately 74 percent or 24.4 million acres of the inventoried land is devoted to this use. Corn and soybeans are king and queen. Nearly 17.6 million acres are devoted to these two important crops. Cropland increased from 23.9 million acres in the 1958 Inventory to 24.4 million acres in 1967.

Forestland occupies 3.6 million acres or nearly 11 percent of the rural land area. Most of it (3.46 million acres) is classified as commercial forest. The non-commercial forest is largely used for recreation and conservation purposes. Forestland has decreased from 3.9 million acres in 1958 to 3.6 million in 1967.

Pastureland is our third largest use for rural land. A little over 10 percent or 3.35 million acres of Illinois land is used to pasture livestock. This use has increased very slightly from 3.31 million acres in 1958 to 3.35 million acres in 1967.

Other land has decreased from 1.8 million acres in 1958 to 1.5 million in 1967. Land classified as other land is rural land not used as cropland, forestland, or pastureland. Some of it is used for wildlife and recreation.

The Inventory acreage was determined by subtracting from the total land area that which was in federal land, water areas, and used for urban purposes.

Conservation Needs

Cropland- About 66 percent of Illinois cropland needs additional conservation treatment. Nearly 21 percent needs the application of contour farming practices with about half of this needing terraces or diversions to minimize soil erosion.

The remaining need on 20 percent of the cropland is for additional protective cover during periods of wind or water erosion. This need for cover includes the need for crop residues, cover crops, and minimum tillage.

Crop rotations, including sod, are the greatest need on nine percent of the cropland. Three percent of the cropland needs to be converted to trees or grass to properly control the erosion hazard.

Drainage is the primary need on 13 percent of the cropland.

The Inventory indicates only the most needed measure for each acre as determined from sample areas by a soil conservation technician. These needs were based on his judgment as guided by soil conservation service guidelines, the prevailing agricultural operations on the sample area, and the practical basis and guides used in the development of conservation plans.

It is recognized that there are needs for other practices or measures not included in this Inventory. Supporting practices such as grassed waterways, grade or erosion control structures, and ponds are widely needed.

Most conservation practices are used in combination with other conservation practices. However, the Inventory does not show this relationship since only the most needed practice or measure was determined for each acre not adequately treated.

Forestland-Nearly 57 percent of the woodland would benefit from stand improvement by thinning out mature trees and undesirable or weed trees. Planting to thicken the stand is needed on about 28 percent of Illinois forestland.

Protection from grazing is the most needed practice on Illinois woodland. Nearly 35 percent of the woodland is being harmed by grazing. The need for fire protection and disease and insect control is also extensive.

Pastureland-Nearly 77 percent of Illinois pastureland needs some treatment. On 44 percent the greatest need is for reestablishment by reseeding. Over 38 percent needs improvement by fertilization, weed control, or grazing regulation. The remaining two percent requiring treatment, needs to be planted to trees and used for wildlife, woodland, or recreation.

Other Land-Some of our most critical erosion, particularly that contributing heavily to downstream pollution by sediment occurs on "other land". Road cuts, borrow areas, and strip mines are included in this category. About 36 percent of the "other land" on farms needs conservation measures, and about 34 percent of the "other land" not in farms needs treatment. The treatment needed may vary from seeding grass on the less critical areas to riprapping with stones on the extremely critical areas. Some of this land has high potential for wildlife or recreational use.

Watershed Project Needs

The need for watershed projects was appraised as a separate activity from the land use and treatment inventory. This appraisal identifies the need for project-type action over and beyond the treatment needs for each major land use. The number of watersheds determined to be feasible for project action is listed by major drainage area, principal drainage basin, and subbasin (see Table 27).

State-wide, 679 watersheds were delineated of which 294 were appraised as being potentially feasible for project development. Watersheds were considered potentially feasible if they were physically feasible and if the estimated benefits to flood prevention and water use were equal to or greater than estimated project costs.

TABLE 27

Inventory of potentially feasible watersheds less than 400 square miles in area with the kinds and extent of problems needing project action 1/

Major drainage area, principal drainage basin, subbasins	Watersheds feasible for project action		Kind and extent of problems									
			Flood prevention			Agricultural water management			Nonagricultural water management			
			Floodwater and sediment damage		Erosion damage	Drainage	Irrigation	Rural water supply	Municipal or industrial water supply	Recreational development	Fish & wildlife development	Water quality management
			Agricultural	Urban								
	Number	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	Number	Number	Number	Number	Number
Ohio River	82	4907.3	509.6	1.5	305.5	679.8	7.0	57	58	41	39	27
Cache River	2	238.7	30.1	0	8.1	14.3	0	1	1	1	1	1
Direct Ohio Tributaries	10	325.6	32.1	0	12.1	11.9	0	10	10	0	0	0
Saline River	8	573.4	130.7	.2	50.8	141.1	0	3	6	1	1	1
Wabash River	62	3769.7	316.7	1.3	234.6	512.4	7.0	43	41	39	37	25
Direct Wabash Tributaries	12	533.5	50.5	0	21.5	55.0	0	10	9	9	9	6
Vermilion River	4	675.2	27.4	.6	37.9	69.0	0	4	2	1	2	1
Embarras River	18	975.7	57.2	.2	37.4	120.3	0	6	10	13	12	9
Little Wabash River	28	1585.3	181.6	.4	137.8	268.1	7.0	23	20	16	14	9
Direct Little Wabash Tribs.	16	1013.1	76.6	.4	92.6	166.6	7.0	12	9	10	8	6
Skillet Fork	12	572.2	105.0	0	45.2	101.5	0	11	11	6	6	3
Upper Mississippi River	212	14592.5	1127.5	37.3	2209.2	1573.4	3.3	186	141	66	86	70
Big Muddy River	10	1043.2	100.6	.4	134.9	355.3	1.5	10	5	3	2	3
Cache River	8	190.3	50.0	.1	47.4	29.6	0	8	7	3	3	8
Illinois River	108	7468.3	507.3	33.8	1012.1	658.8	1.5	95	[illegible]	36	45	37
Direct Illinois Tribs.	36	2597.5	216.2	2.9	412.4	110.2	0	33	28	8	13	10
Kankakee River	16	1017.7	96.2	[illegible]	82.4	241.3	1.0	15	11	1	1	2
Direct Kankakee Tribs.	1	78.4	6.0	0	7.0	15.0	0	1	1	0	0	0
Iroquois River	10	585.7	47.2	.7	65.1	208.1	0	10	10	1	0	2
Des Plaines River	5	353.5	[illegible]	26.3	10.4	68.2	1.0	4	0	0	1	0
Fox River	4	236.7	44.9	3.3	.6	46.2	.5	4	2	1	0	1
Vermilion River	2	143.2	4.5	0	4.3	6.3	0	2	1	2	2	2
Mackinaw River	6	276.8	14.6	.4	37.7	14.0	0	5	6	4	5	4
Spoon River	12	601.6	42.4	0	225.5	54.4	0	8	8	5	3	3
Sangamon River	17	1296.5	45.7	.2	62.6	81.4	0	17	10	7	12	7
Direct Sangamon Tribs.	7	293.4	6.2	.2	43.9	14.0	0	7	4	6	7	6
Upper Mississippi (cont.)												
South Fork	2	146.4	1.9	0	.1	17.0	0	2	0	1	2	0
Salt Creek	8	856.7	37.6	0	18.6	50.5	0	8	6	0	3	1
LaMoine River	8	674.2	20.1	0	111.8	39.3	0	7	3	3	3	3
Macoupin Creek	7	424.0	28.8	0	74.8	15.7	0	4	5	5	6	5
Kaskaskia River	33	2322.1	158.6	.7	342.3	275.9	0	24	14	12	13	9
Direct Kaskaskia Tribs.	29	1943.8	131.3	.7	316.0	245.2	0	20	13	11	12	8
Shoal Creek	4	378.3	27.3	0	26.3	30.7	0	4	1	1	1	1
Direct Mississippi Tribs.	38	2423.8	225.2	2.3	460.4	197.0	.3	35	27	8	13	7
Rock River	15	1144.8	85.7	0	212.1	56.8	.1	14	14	4	10	6
Direct Rock River Tribs.	7	559.7	55.3	0	121.5	41.8	.1	6	7	0	4	2
Pecatonica River	5	288.6	12.6	0	27.3	8.8	0	5	5	2	3	1
Direct Pecatonica Tribs.	4	258.3	11.1	0	17.3	5.3	0	4	4	1	2	1
Sugar River	1	30.3	1.5	0	10.0	3.5	0	1	1	1	1	0
Green River	3	296.5	17.8	0	63.3	6.2	0	3	2	2	3	3
Illinois State totals	294	19499.8	1632.0	35.8	2514.8	2253.2	10.3	243	199	107	125	97

1/ Each delineated watershed was appraised by experienced planners as to potential physical and economic feasibility for developments. A watershed was considered potentially feasible if it was estimated that potential benefits would be equal to or greater than estimated costs for flood prevention or agricultural water management.

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*All reports and maps are available through the Agronomy Department of the University of Illinois at Urbana. Older soil maps and soil reports should be interpreted and used in connection with new soil information as it becomes available. Maps and reports bearing dates earlier than 1933 are considered old.

CHAPTER IV

SEGMENT ANALYSES

The water quality problems of a given river basin are best described in terms of its component parts, the segment or sub-basin.

Uniform criteria have been applied in identifying segment boundaries. Two basic types of segments have been identified, after consideration of the following factors:

Type A - Sub-basin segments

- Ratio of tributary flow to main stem flow at confluence;
- Significant water quality differential;
- Size of sub-basin; and
- Clusters of discharges on tributaries.

Type B - Main stem segments

- Existence and location of clusters and identified urban industrial areas;
- Significant hydrological changes in character of river; and
- Confluence of sub-basin segment tributaries with main stem.

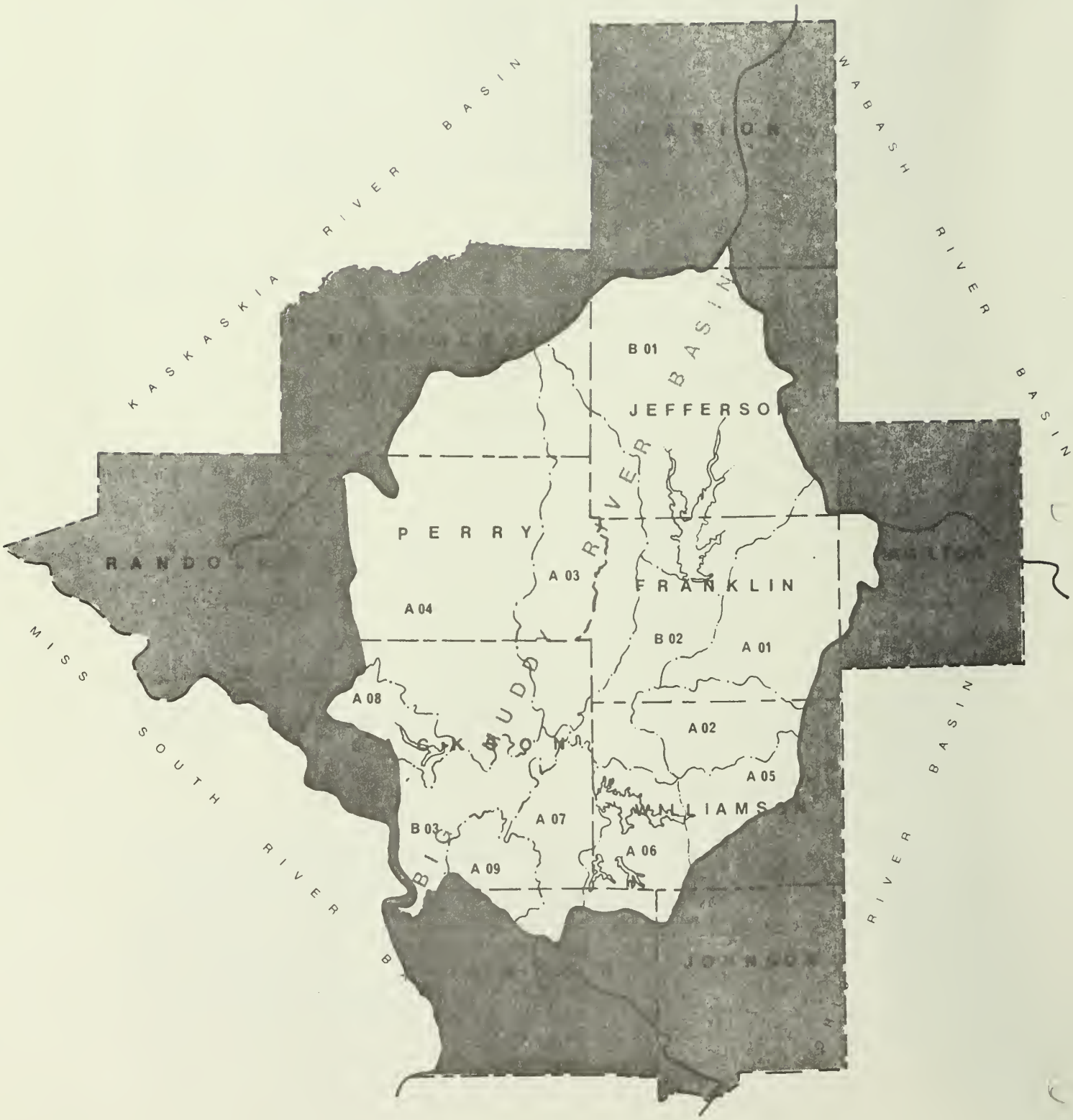
Figure 1 depicts the basin with its related segments. See Appendix A for more precise basin maps.

Objectives of Segment Analyses

A segment analysis consists of an assessment of existing and potential water quality violations within the segment, including identification of the types and degree of problems, and the sources of pollutants (both point and nonpoint sources) contributing to those violations. The water quality violations are described in terms of existing and potential violations of water quality standards. The analysis identifies the specific water quality parameters requiring additional limitations beyond the currently projected point source controls. The upstream sources that contribute or may contribute to such violations are identified.

FIGURE 1

BIG MUDDY RIVER BASIN



All segment analyses are based on water quality measured at the water quality sampling stations of the Illinois monitoring network. Those located in the specific segment are considered representative of the segment water quality. Beyond the water quality sampling data, the prime measures of water quality are the various aquatic life surveys and other studies as reported in the analysis of the particular segments.

Content of Segment Analyses

Using the best available monitoring and surveillance data the following areas of water quality are described in each segment analysis:

1. Identification of the problem. Tables show violations of the water quality standards observed during 1975. A listing of water quality stations and the sample type codes is given in Appendix E. The complete record of all water quality samples collected is available on microfiche from IEPA.

2. Sources of Pollution. Specific information for known sources of pollution is given on discharge sheets for point source discharges, feedlots, public water supplies discharging to surface water, operating land disposal sites, underground disposal wells and permitted mines. The discharge information sheets and the explanation of items on these sheets are included in Appendix B. More detailed information concerning each source is available in the files of IEPA.

3. Effluent limitations. The point source effluent requirements, according to NPDES and the Illinois Pollution Control Board effluent regulations, and the schedules of compliance are specified on the discharge information sheets.

4. Water Quality Indices (WQI). As developed by Illinois Environmental Protection Agency staff for all water quality monitoring stations, this index shows the variation in water quality from 1971 to 1975. See Appendix C for additional information regarding the purpose and development of the WQI.

5. Aquatic Life Survey. Findings of the biological surveys performed by IEPA staff or by contractors are included in the segment analyses. The procedures used to conduct a survey are included in Appendix D.

6. Lakes. Findings of the eutrophication surveys performed by USEPA are included in the Aquatic Life Section of each applicable segment analysis. Additionally, sedimentation rates for various lakes in the segment are given in Chapter III of this plan.

7. Basin maps. The county maps, included in Appendix A, show basin and segment boundaries. Map Number 1 shows the location of municipal, industrial, and miscellaneous discharges, USGS gaging stations, and the IEPA water quality sampling stations. Map Number 2 shows the location of public water supply facilities, feedlots, landfills, disposal wells, and permitted mines.

8. Sources of pollution. All known point sources and possible nonpoint sources in each segment contributing to violations of the water quality standards are listed in the tables. Note that $\bar{x}$ refers to at least one sample resulting in an effluent concentration in excess of the discharge's ultimate effluent standard.

9. The water quality standard violations, that will remain after point source controls are operational, are listed by water quality sampling stations in the table at the end of each segment analysis.

10. Tables listed in the segment analysis are numbered consecutively in each segment.

The explanation of abbreviations used in the text are given below:

Ag----------silver
As----------arsenic
B----------boron
BOD----------biochemical oxygen demand
Ck----------creek
CN----------cyanide
Cu----------copper
Cd----------cadmium
Cr (hex)----------hexavalent chromium
DO----------dissolved oxygen
D.S.----------downstream
F----------fluoride
F.C.----------fecal coliform
Fe----------iron
ft----------feet
g----------gram
$g/m^2/yr$----------gram per meter square per year
Hg----------mercury
IEPA----------Illinois Environmental Protection Agency
Kg/Km^2----------Kilogram per kilometer square
Lgn----------lagoon
mg/l----------milligram per litre
ml----------millilitre
Mn----------manganese
μg----------microgram

N----------nitrogen
N.W.----------northwest
NH_3-N----------ammonia nitrogen
N.W & C R.R.----------Northwest and Central Railroad
P----------phosphorus
Pb----------lead
PCB----------polychlorinated biphenyls
ppm----------parts per million
Sec.----------section
St.----------street
STP----------sewage treatment plant
STW----------sewage treatment works
TDS----------total dissolved solids
TSS----------total supsended solids
Twp----------township
USEPA----------United States Environmental Protection Agency
U.S.----------upstream
WQI----------Water Quality Index
WQS----------Water Quality Standard
WQSS----------water quality sampling station
yds.----------yards
#----------number

The level of detail of the Phase II Water Quality Management Plan will be tailored to the water quality violations described in these segment analyses, varying from intensive planning in the designated complex problem areas to minimal planning where few water quality problems exist.

Big Muddy River Basin

Segment A-01

This segment is on the eastern side of the Big Muddy River Basin which extends over portions of Franklin, Jefferson, and Hamilton Counties and consists of the watershed of the Middle Fork of the Big Muddy River. There is one Illinois Environmental Protection Agency (IEPA) water quality sampling station within this segment. This water quality sampling station is located on the Middle Fork of the Big Muddy River and is given a sample type code (see Appendix E) of 1 and 4. An exact location of this water quality sampling station is given on Table 1. There is no United States Geological Survey (USGS) stream gaging station within this segment.

There are six point source discharges within this segment. Of these six discharges, three are identified as municipal and the other three are identified as miscellaneous.

There are two permitted coal mines within this segment. Both of them belong to Freeman United Coal Company and are located west of Hanaford.

Existing Water Quality

A summary of the existing (1975 calendar year) water quality in terms of maximum, minimum, and mean values for nine of the parameters at the 1 IEPA water quality sampling station (WQSS) is presented in Table 1. The nine parameters are fecal coliform, dissolved oxygen, total suspended solids, total phosphorus, nitrate nitrogen, ammonia nitrogen, total iron, total dissolved solids and pH. The units applicable to each parameter are shown in the tables. A discussion of the water quality summary tables is included in conjunction with "Summary and Discussion of 1975 Water Quality Problems and Violations".

Summary of 1975 Sampling Data

TABLE: 1

Station: NH-05: Rt 37 Br 1 Mi N of W. Frankfort

	Fecal Coli #/100 ml	DO mg/l	TSS mg/l	Total P mg/l	NO_3-N mg/l	NH_3-N mg/l	Iron Total mg/l	TDS mg/l	pH
MAXIMUM	9800	12.6	-	4.900	4.3	3.00	4.1	690	7.9
MINIMUM	10	4.1	-	.050	.0	.11	1.3	150	6.3
MEAN	224	7.6	-	1.445	1.1	1.11	2.4	374	7.1

SUMMARY AND DISCUSSION OF WATER QUALITY INDICES (WQI)

Using four water quality parameters, dissolved oxygen, fecal coliform, total dissolved solids, and ammonia-nitrogen, water quality indices have been developed by the IEPA staff for each of the WQSS. The values of WQI have been compared with the findings and experiences of the IEPA field engineers and biological staffs. Based upon these values of the WQI, the WQSS have been assigned a rating of Good or Balanced (A), Average or Unbalanced (B), Fair or Semi-polluted (C), and Poor or Polluted (D). A summary of the WQI ratings from the years 1971 through 1975 for the WQSS within this segment is presented in Table 2. A detailed discussion about the WQI is presented in the Appendix C.

These water quality indices should, however, be taken with caution because they are based on water quality as measured in terms of four parameters only. Therefore, a rating of good or balanced (A), and average or unbalanced (B) assigned to any WQSS does not mean that other water quality parameters may not be in violation of the water quality standards at that WQSS.

Table 2 WATER QUALITY INDICES

STATION	1971	1972	1973	1974	1975
NH-05	C	B	B	B	B

It appears from the WQI ratings that the quality of water in the Middle Fork of the Big Muddy River at the location of water quality sampling station NH-05 has improved from fair or semi-polluted in 1971 to average or unbalanced in 1972 and has stayed the same from 1972 through 1975.

Summary and Discussion of Aquatic Life Survey Report

On November 16, 1973, IEPA staff went to the Middle Fork Creek to do a stream survey on the portion of the creek that had been receiving mine drainage from Freeman Coal Co. Orient #5. The weather conditions on this date were cloudy and cool with an air temperature of 45°F at 8:00 A.M.

The first sampling point location was the C&EI R.R. Bridge on Middle Fork Creek, (NW 1/4, Sec. 18, T7S, R3E). The water temperature at this location was 50°F. and the field pH was 6.5. The water was gray in color and murky. The field dissolved oxygen level was 2.0 mg/l. There were dead and decaying fish present and the dead fish had blood around their gills. This blood around the gills is an indication of death due to low pH. The gray water color could be due to the West Frankfort STP or decaying fish and leaves or a combination. Pictures of the area were taken. Laboratory analysis of the water sample taken at 8:30 A.M. indicated the following:

Iron (total)	-	0.3 mg/l
Manganese	-	1.9 mg/l
Sulfate	-	310 mg/l
pH	-	6.3
Alkalinity	-	0
Acidity	-	30 mg/l
Spec. Cond.	-	1002 microhms

A sample was collected at 9:30 A.M. on the second sampling point, which is upstream on Ewing Creek, a tributary to Middle Fork Creek, and was located at NW 1/4, Sec. 18, T7S, R3E, where the old abandoned Illinois Central Railroad crosses Ewing Creek. The field pH was 7.1 and the water temperature was 56°F. The water was brownish-black in color indicating decaying leaves. There was little, if any, flow. There were live top water minnows observed. Laboratory analysis of the water sample indicated the following:

Iron	-	2.2 mg/l
Manganese	-	1.9 mg/l
Sulfate	-	76 mg/l
pH	-	6.9
Alkalinity	-	6 mg/l
Acidity	-	0
Spec. Cond.	-	338 microhms

A sample was collected at 10:15 A.M. on the sampling point located 50 feet upstream on the Middle Fork from the confluence with Ewing Creek. The water was clear with a green tint. There were several fish observed in the stream. There were dead fish, live fish and fish in distress. The fish had died at different times as could be seen with the degree of decomposition. The dead fish had blood around their gills which is indicative of a low pH kill. Several fish were caught by hand and examined. The examinations revealed that the fish gills were purple in color, which is not normal.

There were game as well as rough fish present. Pictures of the fish and water were taken. The fish that were alive will die, in time, unless a large amount of rainfall dilutes the water. The field pH was 4.4 and the water temperature was 56°F. Laboratory analysis of water sample indicated the following:

Iron (total)	-	1.1 mg/l
Manganese	-	16.9 mg/l
Sulfate	-	570 mg/l
pH	-	4.3
Alkalinity	-	0
Acidity	-	210 mg/l
Spec. Cond.	-	1284 microhms

The next sampling point was near the mine site of Orient #5 and to the mine drainage discharge into Middle Fork Creek, (SW 1/4 Sec. 27, T6S, R3#,). The ditch, which carries the mine drainage to Middle Fork Creek, was flowing at approximately 10 gpm and entering Middle Fork Creek at Groat R.R. Crossing. The condition of the mine site was unchanged from the time of IEPA staff's first visit in September 27, 1973. The field pH at this point was 2.1. The water in Middle Fork Creek was red and so was the mine discharge. This sample was collected at 11:30 A.M. Laboratory analysis of water sampled indicated the following:

Iron (total)	-	740.0 mg/l
Manganese	-	35.0 mg/l
Sulfate	-	5200 mg/l
pH	-	2.7
Alkalinity	-	0
Acidity	-	5600 mg/l
Residue on Evaporation	-	7780 mg/l

Next sampling point was downstream on Middle Fork Creek, from the low water dam that was constructed by the mine owners years ago. A sample was collected at 12:00 noon of the discharge over the low water dam. The field pH was 3.2 and the dissolved oxygen was 0.6 mg/l and the water temperature was 53°F. The water color was clear to brownish black. There was discoloration on the bottom of the stream due to decaying leaves. There were no signs of aquatic life at this time. Laboratory analysis of water sampled indicated the following:

Iron (total)	-	42.0 mg/l
Manganese	-	6.0 mg/l
Sulfate	-	490.0 mg/l
pH	-	3.5
Alkalinity	-	0
Acidity	-	310 mg/l
Specific Conductivity	-	1180 microhms

The next sample was collected at the State Route 34 Bridge on Middle Fork Creek in the area of the mine site and upstream of the mine property sampling. The location of this sampling point is (SW 1/4, Sec. 22, T6S, R3E) approximately 1 1/2 miles upstream of the mine discharge. The stream at this point appeared normal with a field pH of 6.0 and a dissolved oxygen of 5.8 ppm. The water temperature was 55°F. This sample was collected at 1:00 P.M. on the north side of the bridge. There were several minnows and fish observed in the stream. The water had a brownish black color due to decaying leaves and there was very little flow. Laboratory analysis of water sample indicated the following:

Iron (total)	-	1.9 mg/l
Manganese	-	1.1 mg/l
Sulfate	-	51 mg/l
pH	-	7.1
Alkalinity	-	38 mg/l
Acidity	-	0
Spec. Cond.	-	305 microhms

As can be seen from the laboratory results, the upstream portion of this stream is of a very good quality with few solids and a little alkalinity. But the mine discharge causes the stream to be acid and contain very high solids, sulfates, iron, manganese and reduces the dissolved oxygen level from approximately 6.0 to 0.6 mg/l. Another tributary, Ewing Creek, is of a good quality and after emptying into Middle Fork becomes polluted also.

On January 28, 1972, biological samples were collected at four stations on the Middle Fork of the Big Muddy River and a tributary named Big Ditch at West Frankfort, Illinois. The purpose was to determine the condition of the stream environments downstream from the West Frankfort sewage treatment plant.

Big Ditch, approximately 100 feet upstream from the plant discharge and 20 feet upstream from the Illinois Central railroad bridge, was semi-polluted. It was not possible to investigate further upstream to determine the source or sources of contaminants affecting this

environment due to the presence of an ice cover. Probably the waste material enters the stream from several upstream sources. The city of West Frankfort is in the headwaters of Big Ditch.

Big Ditch, approximately 0.5 mile downstream from the plant discharge, was polluted. No life was observed. Floating solids were observed and sludge-like material which was black and had a septic odor was 1 foot in depth. There was no ice cover. The temperature was 43°F.

Middle Fork, downstream approximately 1.5 mile from the confluence of Big Ditch and 2 miles downstream from the plant discharge, was polluted. The station is about 100 feet upstream from Interstate Route 57 bridge. Sewage type growth was evident on submerged objects. Sludge-like material was one foot in depth. There was an ice cover.

Middle Fork approximately 100 yards upstream from the confluence of Big Ditch, was balanced. No sludge-like material was observed in the sample area. There was an ice cover.

During a sampling survey in 1969, Middle Fork was sampled at Route 37 bridge and found to be grossly polluted. Route 37 is approximately 1/4 mile downstream from the confluence of Big Ditch. This station was observed but not sampled in 1972. There was no ice cover. Presumably, the heated discharge prevented ice build-up in the area.

Prior to sampling at the first location, it was observed at the plant bar screens that there was a by-pass of raw sewage to the receiving stream.

Summary and Discussion of 1975 Water Quality Problems and Violations

Parameters in violation of general use water quality standards (WQS), their values, and sampling dates at the WQSS NH-05 within this segment are presented in Table 3. Sources contributing or possibly contributing to the water quality violations shown are presented in Tables 4 and 5.

The parameters in violation of the water quality standards at the water quality sampling station NH-05 are pH, fecal coliform, ammonia-nitrogen, total iron, manganese, field dissolved oxygen, and mercury. The maximum recorded fecal coliform, ammonia-nitrogen, total iron, manganese and mercury values were 9800/100 ml, 3.0 mg/l, 4.1 mg/l, 1.5 mg/l, and 0.6 micrograms/l, respectively. The minimum recorded field dissolved oxygen and pH were 4.11 mg/l and 6.3, respectively.

Ammonia

The ammonia-nitrogen violation of the general use water quality standard can be attributed to effluent discharges from West Frankfort STW, Sullivan Rend Lake Tr-Pk, Benton STW SE, and Thompsonville STW. The maximum mean recorded values of ammonia nitrogen in effluents of the above mentioned facilities are listed in Table 4.

The 7-day 10-year low flow at all discharge locations is zero and consequently the permit conditions for biochemical oxygen demand (4 mg/l) and total suspended solids (5.0 mg/l) is stringent enough. However, West Frankfort STW and Thompsonville STW have been granted Pfeffer exceptions which allow their effluents to contain BOD (10 mg/l) and total suspended solids (12 mg/l). It appears that the ammonia nitrogen problem may persist unless treatment of effluents to 1.5 mg/l ammonia nitrogen, is provided at the above mentioned facilities.

Low field dissolved oxygen could be a direct result of high ammonia nitrogen in the stream.

Iron, Manganese, Mercury

Total iron, manganese, and mercury violations of water quality standards could be attributed to mine related activities. There are two permitted mines in this segment. In 1974, one of three samples from West Frankfort STW effluent showed the presence of mercury in excess of the Illinois Pollution Control Board criterion. Point source control would not eliminate these problems.

pH

The recorded pH violations are marginal (6.3) and should be attributed to mine related activities.

Fecal Coliform

Fecal coliform measured in the effluents of the point source discharges are very high (Table 4). West Frankfort STW and Thompsonville STW have chlorination equipment. If operated properly the remaining fecal coliform violations could be attributed to miscellaneous point source discharges as well as livestock operations scattered in the area. Data available shows that West Frankfort and Thompsonville are heavy contributors of the fecal coliform violations.

Water Quality Violations That Will Remain After Point Source Controls Are Operational

The following water quality parameters are being violated; these violations will not be corrected by control of known point source discharges:

NH-05: Total iron, manganese, mercury

In addition to those parameters above, the following parameter violations probably will not be corrected by control of known point source discharges:

NH-05: pH, fecal coliform, ammonia nitrogen, dissolved oxygen

TABLE: 3 PARAMETERS IN VIOLATION OF WATER QUALITY STANDARDS (GENERAL USE) AT STATION NH-05 FOR 1975

PARAMETER AND LIMIT	PARAMETER VALUE	SAMPLE DATE
ph 6.5 to 9.0	6.3	12/01
	6.3	8/20
fecal coliform 200/100 ml	9800	12/01
	1500	10/09
	390	8/20
	670	6/23
	4700	4/24
ammonia nitrogen 1.5 mg/l	1.9	11/21
	3.0	10/09
	1.6	9/25
	2.5	6/23
	2.7	5/28
total iron 1.0 mg/l	1.5	11/21
	4.1	8/20
	2.7	5/28
	1.3	2/20
manganese 1.0 mg/l	1.02	11/21
	1.5	8/20
	1.3	5/28
field dissolved oxygen 5.0 mg/l	4.3	8/20
	4.6	6/23
	4.11	5/28
mercury 0.5 micrograms/l	0.6	8/20

TABLE: 4 POINT SOURCES CONTRIBUTING/POSSIBLY CONTRIBUTING TO WATER QUALITY VIOLATIONS

Water Quality Station: NH-05

Key: x contained in effluent x 1975 effluent violation	PARAMETERS BEING VIOLATED AT WATER QUALITY SAMPLING STATION							
Pollutant Source	pH	F.C.	NH_3-N	Tot.Fe	Mn	Field DO	Hg	
W. Frankfort STW		x	x				x	
Sullivan - Rend Lake Tr Pk		x	x					
Benton STW SE		x	x					
Logan School 110								
Thompsonville STW		x	x					
Akin Sch. - Dist 91 Akin								

Table: 5
Water Quality Sampling Stations NH-05

Pollutant Source	PARAMETERS BEING VIOLATED							
	pH	F.C.	NH_3-N	Tot.Fe	Mn	Field DO	Hg	
Upstream WQSS								
Agricultural Runoff		x	x					
Silvicultural Runoff								
Mining (strip & sub-surface)	x			x	x		x	
Urban Stormwater Runoff								
Solid Waste Leachate								
Construction Site Runoff								
Septic Tank Leachate								

Big Muddy River Basin

Segment A-02

This segment encompasses the watershed of Pond Creek and extends over portions of Franklin and Williamson Counties. There are three Illinois Environmental Protection Agency water quality sampling stations within this segment. Two water quality sampling stations (NG-01 and NG-02) are located on Pond Creek whereas the third WQSS (NGA-01) is located on Lake Creek, a tributary to Pond Creek, and all are given a sample type code (see Appendix E) of 1. An exact location of each WQSS is given on Tables 1, 2, and 3.

There is no United States Geological Survey stream gaging station within this segment.

There are four point source discharges within this segment. Of these four discharges, one is identified as industrial, one is identified as municipal, and the remaining two are identified as miscellaneous.

There are two permitted landfills, Herrin/Municipal and Herrin/Hindman located southwest of Johnston City. One permitted coal mine, belonging to Freeman United Coal Company, is located west of Johnston City.

Existing Water Quality

A summary of the existing (1975 calendar year) water quality in terms of maximum, minimum, and mean values for nine of the parameters at the 3 IEPA water quality sampling stations (WQSS) is presented in Tables 1-3. The nine parameters are fecal coliform, dissolved oxygen, total suspended solids, total phosphorus, nitrate nitrogen, ammonia nitrogen, total iron, total dissolved solids, and pH. The units applicable to each parameter are shown in the tables. A discussion of the water quality summary tables is included in conjunction with "Summary and Discussion of 1975 Water Quality Problems and Violations".

TABLE: 1
Station: NG-02: Rt. 37 Br at S Edge of W. Frankfort

	Fecal Coli #/100 ml	DO mg/l	TSS mg/l	Total P mg/l	NO_3-N mg/l	NH_3-N mg/l	Iron Total mg/l	TDS mg/l	pH
MAXIMUM	8300	13.0	-	.750	7.3	.93	2.9	560	7.5
MINIMUM	10	4.3	-	.030	.0	.05	.7	95	6.2
MEAN	348	8.4	-	.148	1.0	.30	1.9	357	6.9

TABLE: 2
Station: NGA-01: Twp Rd Br 2 Mi N, 1 Mi E of Herrin

	Fecal Coli #/100 ml	DO mg/l	TSS mg/l	Total P mg/l	NO_3-N mg/l	NH_3-N mg/l	Iron Total mg/l	TDS mg/l	pH
MAXIMUM	180000	14.4	-	.850	5.7	.76	1.3	830	7.8
MINIMUM	0	7.2	-	.020	.2	.05	.2	330	6.7
MEAN	346	10.5	-	.209	1.0	.27	.7	575	7.1

TABLE: 3
Station: NG-01: Rt 148 Br 3 Mi N NW of Herrin

	Fecal Coli #/100 ml	DO mg/l	TSS mg/l	Total P mg/l	NO_3-N mg/l	NH_3-N mg/l	Iron Total mg/l	TDS mg/l	pH
MAXIMUM	890	12.8	-	.280	6.6	.50	4.3	830	7.7
MINIMUM	0	6.3	-	.030	.1	.00	.8	190	4.3
MEAN	118	9.2	-	.101	1.4	.16	1.8	545	6.8

SUMMARY AND DISCUSSION OF WATER QUALITY INDICES (WQI)

Using four water quality parameters, dissolved oxygen, fecal coliform, total dissolved solids, and ammonia-nitrogen, water quality indices have been developed by the IEPA staff for each of the WQSS. The values of WQI have been compared with the findings and experiences of the IEPA field engineers and biological staffs. Based upon these values of the WQI, the WQSS have been assigned a rating of Good or Balanced (A), Average or Unbalanced (B), Fair or Semi-polluted (C), and Poor or Polluted (D). A summary of the WQI ratings from the years 1971 through 1975 for the WQSS within this segment is presented in Table 4. A detailed discussion about the WQI is presented in the Appendix C.

These water quality indices should, however, be taken with caution because they are based on water quality as measured in terms of four parameters only. Therefore, a rating of good or balanced (A), and average or unbalanced (B) assigned to any WQSS does not mean that other water quality parameters may not be in violation of the water quality standards at that WQSS.

Table 4 WATER QUALITY INDICES

STATION	1971	1972	1973	1974	1975
NG-02		B	B	A	A
NGA-01	D	B	B	B	A
NG-01	D	B	B	A	A

It appears from the Water Quality Index ratings that since 1972 the quality of water in Pond Creek at its headwaters at the location of water quality sampling station NG-02 has improved from unbalanced to balanced in 1975. Also, the quality of water in Lake Creek at the location of water quality sampling station NGA-01 has improved from polluted in 1971 to unbalanced in 1975. Further, the water quality in Pond Creek upstream from its confluence with Big Muddy River has improved from polluted in 1971 to balanced in 1975.

Summary and Discussion of Aquatic Life Survey Reports

An aquatic life survey of Pond Creek at various locations was conducted in the latter part of August 1971 by the Illinois Environmental Protection Agency biological staff. The results of the aquatic survey by location is summarized below.

Description of Location	Biological Classification
Pond Creek - Herrin - unnamed tributary - East Side of Norge Manufacturing, 50 yds upstream from concrete road bridge, 10 yds. downstream of concrete walkway.	unbalanced
Pond Creek - Herrin - unnamed tributary to Pond Creek - D.S. Railroad Culvert between two ponds	semi-polluted
Pond Creek - Herrin - bridge D.S. from Norge Manufacturing (Wooden bridge) road, 1 block East of Plant	polluted
Pond Creek - W. Frankfort - unnamed tributary on 1st bridge D.S. from Ziegler mine No. 4 - 1/4 mile (approx.)	polluted
Pond Creek - W. Frankfort - turnout R.R. trestle D.S. from Ziegler No. 4 mine approx. 1 1/2 mile S.E. from city of West Frankfort.	polluted
Pond Creek - West. Frankfort - 1 mile S. of West Frankfort D.S. confluence of Ziegler mine No. 4 drainage	semi-polluted
Pond Creek - West Frankfort - U.S. Confluence unnamed tributary, U.S. from Ziegler Mine #4.	balanced

Summary and Discussion of 1975 Water Quality Problems and Violations

Parameters in violation of general use water quality standards, their values and sampling dates at the water quality sampling stations within this segment are presented in Table 5 through 7. Sources contributing or possibly contributing to the water quality violations shown are presented in Tables 8-12.

NG-02

The parameters in violation of the water quality standards at water quality sampling station NG-02 are pH, fecal coliform, total iron, manganese, and field dissolved oxygen. The maximum recorded fecal coliform, total iron, and manganese values were 8300/100 ml, 2.9 mg/l, and 1.68 mg/l, respectively. The minimum recorded field dissolved oxygen and pH were 4.3 mg/l and 6.2, respectively.

There is no point source discharge contributing to the water quality at this location. Therefore, all violations of water quality standards are attributable to coal mines and agricultural runoff. A biological survey done in this area during August 1971 indicated a tremendous amount of mining related activities in this area.

NGA-01

The parameters in violation of the water quality standards at water quality sampling station NGA-01 are fecal coliform, manganese, and sulfates. The maximum recorded fecal coliform, manganese, and sulfate values were 180,000/100 ml, 6.2 mg/l, and 1400 mg/l respectively.

Fecal coliform violations may be attributed to Ernfelt home, Johnston City STW, individual septic tanks, and livestock scattered in the area. The manganese and sulfates may be attributed to mine related activities: roads, gob piles, abandoned mines and one permitted mine within this segment.

NG-01

The parameters in violation of the water quality standards at water quality sampling station NG-01 are pH, fecal coliform, total iron, manganese, mercury, and sulfate. The maximum recorded fecal coliform, total iron, manganese, mercury and sulfate values were 890/100 ml, 4.3 mg/l, 4.1 mg/l, 0.7 micrograms/l, and 800 mg/l, respectively. The minimum recorded pH was 4.3.

The only point source discharge contributing to this water quality sampling station is Cable Service Co. of West Frankfort, but the effluent from this facility was not sampled for analysis during 1975. However, the quality of water at this water quality sampling station would probably be influenced by the quality of water coming from upstream. The upstream water quality sampling stations NGA-01 and NG-02 show jointly the violation of the water quality standards observed at water quality sampling station NG-01. It, therefore, is likely that measures taken to improve the quality of water at water quality sampling stations NG-01 and NGA-01 would also improve the quality of water at water quality sampling station NG-01.

Water Quality Violations That Will Remain After Point Source Controls Are Operational

The following water quality parameters are being violated; these violations will not be corrected by control of known point source discharges:

NG-02: fecal coliform, manganese, sulfate
NGA-01: manganese, sulfate
NG-01: manganese, sulfate, mercury, pH, total iron

In addition to those parameters above, the following parameter violations probably will not be corrected by control of known point source discharges:

NGA-01: fecal coliform
NG-01: fecal coliform

TABLE: 5 PARAMETERS IN VIOLATION OF WATER QUALITY STANDARDS (GENERAL USE) AT STATION NG-02 FOR 1975

PARAMETER AND LIMIT	PARAMETER VALUE	SAMPLE DATE
fecal coliform 200/100 ml	630	12/09
	440	10/09
	220	9/25
	540	8/20
	330	7/22
	390	6/23
	210	5/28
	4000	4/24
	4300	2/20
	8300	1/02
total iron 1.0 mg/1	2.1	12/09
	1.9	9/25
	2.9	3/26
field dissolved oxygen 5.0 mg/1	4.9	7/22
	4.3	6/23
manganese 1.0 mg/1	1.68	6/23
pH 6.5 to 9.0	6.2	3/26

TABLE: 6 PARAMETERS IN VIOLATION OF WATER QUALITY STANDARDS (GENERAL USE) FOR 1975 AT STATION NGA-01

PARAMETER AND LIMIT	PARAMETER VALUE	SAMPLE DATE
fecal coliform 200/100 ml	300	12/09
	220	11/21
	600	10/09
	270	8/20
	550	6/17
	180000	5/08
	350	3/20
	840	2/25
manganese 1.0 mg/1	6.2	10/09
	5.25	7/28
	2.30	4/15
	2.4	1/22
sulfates 500 mg/1	1400	10/09
	1260	7/28
	600	4/15

TABLE: 7 PARAMETERS IN VIOLATION OF WATER QUALITY STANDARDS (GENERAL USE) AT STATION NG-01 FOR 1975

PARAMETER AND LIMIT	PARAMETER VALUE	SAMPLE DATE
fecal coliform 200/100 ml	450	12/09
	890	9/23
	620	5/08
	410	3/20
	790	2/25
manganese 1.0 mg/1	1.8	11/21
	4.1	8/20
sulfate 500 mg/1	800	11/21
mercury 0.5 g/1	0.7	8/20
pH 6.5 to 9.0	6.3	5/08
	4.3	2/25
total iron 1.0 mg/1	1.2	5/08
	4.3	2/25

SOURCES CONTRIBUTING/POSSIBLY CONTRIBUTING
TO WATER QUALITY VIOLATIONS

Table: 8
Water Quality Sampling Stations NG-02

Pollutant Source	PARAMETERS BEING VIOLATED							
	F.C.	Tot Fe	Field DO	Mn	pH			
Upstream WQSS								
Agricultural Runoff	x		x					
Silvicultural Runoff								
Mining (strip & sub-surface)		x	x	x	x			
Urban Stormwater Runoff								
Solid Waste Leachate								
Construction Site Runoff								
Septic Tank Leachate								

TABLE: 9 POINT SOURCES CONTRIBUTING/POSSIBLY CONTRIBUTING TO WATER QUALITY VIOLATIONS

Water Quality Station: NGA-01

Key: x contained in effluent x 1975 effluent violation	PARAMETERS BEING VIOLATED AT WATER QUALITY SAMPLING STATION							
Pollutant Source	F.C.	Mn	Sulfate					
Lincoln Grade School								
Ernfelt Home	x							
Johnston City STW	x							

Table: 10
Water Quality Sampling Stations NGA-01

Pollutant Source	PARAMETERS BEING VIOLATED							
	F.C.	Mn	Sulfate					
Upstream WQSS								
Agricultural Runoff	x	x						
Silvicultural Runoff								
Mining (strip & sub-surface)			x					
Urban Stormwater Runoff								
Solid Waste Leachate								
Construction Site Runoff								
Septic Tank Leachate								

TABLE: 11 POINT SOURCES CONTRIBUTING/POSSIBLY CONTRIBUTING TO WATER QUALITY VIOLATIONS

Water Quality Station: NG-01

Key: x contained in effluent x 1975 effluent violation	PARAMETERS BEING VIOLATED AT WATER QUALITY SAMPLING STATION							
Pollutant Source	F.C.	Mn	Sulfate	Hg	pH	Total Fe		
Cable Service Co.								

Table: 12
Water Quality Sampling Stations NG-01

Pollutant Source	PARAMETERS BEING VIOLATED							
	F.C.	Mn	Sulfate	Hg	pH	Total Fe		
Upstream WQSS								
Agricultural Runoff	x							
Silvicultural Runoff								
Mining (strip & sub-surface)		x	x	x	x	x		
Urban Stormwater Runoff								
Solid Waste Leachate								
Construction Site Runoff								
Septic Tank Leachate								

Big Muddy River Basin

Segment A-03

This segment encompasses the watershed of Little Muddy River and extends over portions of Franklin, Jackson, Jefferson, Perry and Washington Counties. There are three Illinois Environmental Protection Agency (IEPA) water quality sampling stations (WQSS) within this segment. Two water quality sampling stations are located on the Little Muddy River and one water quality sampling station, NE-03, is given a sample type code (see Appendix E) of 1 and 4 whereas the other water quality sampling station NE-04 is given a sample type code 1.

The third water quality sampling station NEB-01 is located on Reese Creek and is given a sample type Code 1. An exact location of each water quality sampling station is given on Tables 1 through 3.

There is no United States Geological Survey (USGS) stream gaging station within this segment.

There are thirteen point source discharges within this segment. Of these thirteen discharges, two are identified as industrial, five are identified as municipal, and the remaining six are identified as miscellaneous.

There is one water treatment facility having a surface discharge within this segment - north of Ashley on Muddy Creek. One beef feedlot is on the northeast side of DuQuoin. One landfill, DuBois/Municipal is located north of DuBois. Four permitted coal mines are within this segment, all of which belong to Consolidation Coal Company.

One mine is located between DuQuoin and Tamaroa; whereas the other three mines are on the east side of the Little Muddy River and near its confluence with the Big Muddy River.

Existing Water Quality

A summary of the existing (1975 calendar year) water quality in terms of maximum, minimum, and mean values for nine of the parameters at the 3 IEPA water quality sampling stations (WQSS) is presented in Tables 1-3. The nine parameters are fecal coliform, dissolved oxygen, total suspended solids, total phosphorus, nitrate nitrogen, ammonia nitrogen, total iron, total dissolved solids, and pH. The units applicable to each parameter are shown in the tables. A discussion of the water quality summary tables is included in conjunction with "Summary and Discussion of 1975 Water Quality Problems and Violations".

TABLE: 1
Station: NE-04: Rt 14 Br 2 Mi E of Old DuQuoin

	Fecal Coli #/100 ml	DO mg/l	TSS mg/l	Total P mg/l	NO_3-N mg/l	NH_3-N mg/l	Iron Total mg/l	TDS mg/l	pH
MAXIMUM	13000	13.3	-	1.200	1.0	.57	15.0	650	7.6
MINIMUM	30	2.5	-	.080	.0	.10	.9	140	6.8
MEAN	506	6.9	-	.364	.4	.26	5.7	351	7.1

TABLE: 2
Station: NEB-01: Rt 14 Br 1 Mi E of Old DuQuoin

	Fecal Coli #/100 ml	DO mg/l	TSS mg/l	Total P mg/l	NO_3-N mg/l	NH_3-N mg/l	Iron Total mg/l	TDS mg/l	pH
MAXIMUM	1500	11.0	-	3.900	1.6	1.00	2.0	720	7.9
MINIMUM	60	4.9	-	.200	.2	.00	.7	150	6.5
MEAN	375	7.7	-	1.284	.7	.36	1.0	423	7.2

TABLE: 3
Station: NE-03: Rt 149 Br 2 Mi E of DeSoto

	Fecal Coli #/100 ml	DO mg/l	TSS mg/l	Total P mg/l	NO_3-N mg/l	NH_3-N mg/l	Iron Total mg/l	TDS mg/l	pH
MAXIMUM	4500	13.5	-	.380	5.0	.28	2.9	1740	7.9
MINIMUM	20	5.1	-	.130	.0	.02	1.0	130	6.8
MEAN	182	9.0	-	.223	.7	.14	2.1	565	7.4

SUMMARY AND DISCUSSION OF WATER QUALITY INDICES (WQI)

Using four water quality parameters, dissolved oxygen, fecal coliform, total dissolved solids, and ammonia-nitrogen, water quality indices have been developed by the IEPA staff for each of the WQSS. The values of WQI have been compared with the findings and experiences of the IEPA field engineers and biological staffs. Based upon these values of the WQI, the WQSS have been assigned a rating of Good or Balanced (A), Average or Unbalanced (B), Fair or Semi-polluted (C), and Poor or Polluted (D). A summary of the WQI ratings from the years 1971 through 1975 for the WQSS within this segment is presented in Table 4. A detailed discussion about the WQI is presented in the Appendix C.

These water quality indices should, however, be taken with caution because they are based on water quality as measured in terms of four parameters only. Therefore, a rating of good or balanced (A), and average or unbalanced (B) assigned to any WQSS does not mean that other water quality parameters may not be in violation of the water quality standards at that WQSS.

Table 4 WATER QUALITY INDICES

STATION	1971	1972	1973	1974	1975
NE-04		B	A	B	A
NEB-01		C	C	B	A
NE-03	A	B	A	A	A

It appears from the WQI ratings that since 1972 the quality of water in the Little Muddy River at water quality sampling station NE-04 has improved from unbalanced to balanced in 1975. The quality of water at water quality sampling station NE-03 in Little Muddy River deteriorated from balanced in 1971 to unbalanced in 1972 and then improved to balanced in 1973, 1974 and 1975. The quality of water in Reese Creek at water quality sampling station NEB-01 improved from semi-polluted in 1972 to balanced in 1975.

Summary and Discussion of Aquatic Life Survey Reports

Aquatic life surveys were conducted by the IEPA biological staff in June 1971 and May 1975 along Reese Creek up and downstream of the DuQuoin STP and along Blacksop Creek, a tributary to Reese Creek. Reports on the aquatic life survey done in June 1971 are presented below.

Description of Location	Biological Classification
Reese Ck - DuQuoin - 50 yds. U.S. DuQuoin Lgn.	Unbalanced
Reese Ck - DuQuoin - 50 yds. D.S. DuQuoin Lgn.	Polluted
Reese Ck - DuQuoin - Park St. approximately 3 mi. D.S. of S.T.P.	Polluted
Reese Ck - DuQuoin - Blacksop Ck. 50 yds. U.S. of Hays Fair Acre Lgn.	Polluted
Reese Ck - DuQuoin - Blacksop Ck. 50 ft. D.S. of Hays Fair Acre Lgn.	Polluted

On May 2, 7 and 13, 1975 biological samples were collected from eight stations in Reese Creek and an unnamed tributary in the vicinity of the DuQuoin Municipal Sewage Treatment Plant. The purpose was to document the condition of stream environments upstream and downstream from the DuQuoin STP.

Station A-1: The unnamed Reese Creek Tributary, approximately 80 yards upstream from the DuQuoin STP discharge pipe, was semi-polluted. Streamflow consisted largely of overflow water from a cooling water pond, about 200 yards upstream at the DuQuoin Packing Company plant.

Station A-2: The unnamed Reese Creek tributary, approximately 1/4 mile upstream from the DuQuoin STP, was unbalanced.

Station C-1: The unnamed Reese Creek tributary, approximately 200 yards downstream from the DuQuoin STP, was polluted. The macroinvertebrate community consisted of three pollution tolerant taxa. Sludge banks, septic odor and dark gray turbidity were present.

Station C-2: Reese Creek, approximately 1/2 mile downstream from the DuQuoin STP, was semi-polluted. Gray turbidity, septic odor and black sludge sediment were present.

Station C-3: Reese Creek, approximately 2 1/2 miles downstream from the DuQuoin STP, was unbalanced. Septic odor and gray turbidity were present.

Station C-4: Reese Creek, approximately 3 1/2 miles downstream from DuQuoin STP, was unbalanced. Mild organic waste odor, moderate turbidity and black septic sediments were present.

Station D-1: Reese Creek, approximately 75 yards upstream from the confluence with the tributary bearing effluent from the DuQuoin STP, was semi-polluted. Black sludge deposits were present. Prior to October 1, 1974, this segment of Reese Creek, within 1/4 mile upstream from Station D-1, had received direct runoff of cattle feedlot wastes.

Station D-2: Reese Creek, approximately 1 1/8 miles upstream from the confluence with the tributary bearing effluent from the DuQuoin STP, was unbalanced. This station is approximately 1 3/4 miles downstream from the Lake DuQuoin overflow.

Comments: Biological samples, septic odor, gray turbidity and sludge deposits indicated extensive organic pollution in the 1/2 mile segment (which includes Stations C-1 and C-2) downstream from the DuQuoin STP. Septic odor was evident in Reese Creek 2 1/2 miles downstream from the DuQuoin STP (at Station C-3) and black septic sediments were present 3 1/2 miles downstream from the STP (at Station C-4).

Stream Quality at Station C-3 was somewhat improved over that of Station C-2, as indicated by a diminished septic odor, a lower degree of gray turbidity and a greater proportion of intolerant organisms in the macroinvertebrate community. Station C-4 showed further improvement with regard to these three parameters. The presence of pollution intolerant stoneflies at Station C-4 indicated that reaeration and stream quality recovery were taking place.

The aquatic life survey done in May 1975 was not on the exact location as done during June 1971. However, it is apparent from the two surveys that quality of water in Reese Creek was improved in 1975 as compared with that in 1971.

Aquatic life surveys were also conducted by IEPA biological staff on the Little Muddy River near Ashley lagoon during February and May, 1972. The findings of the surveys are as presented below:

During the investigation of the Little Muddy River near Ashley, Illinois on February 10, 1972, it was reported by a land owner that occasionally salt water enters the river through an unnamed tributary.

On March 1, 1972 at 2:00 p.m., one of the IEPA biologists made an investigation of the unnamed tributary at the site of the first bridge upstream from the Little Muddy River, which is in Section 33 of Ashley township: The confluence is in the southeast one-fourth of Section 33.

There were three pits observed in the area. Pit A, west of the road bridge and north of the creek, had berms which were badly disrupted. Pit B, east of the road bridge and south of the creek, was being pumped during the investigation. Since the above-ground pipe again goes underground on the north side of the creek, it is not possible to tell where the pumpage goes.

There was oil on the surface of Pit B. Pit C, east of Pit B, had no oil on the surface, however, the east side of the berm was disrupted.

No life was observed at the station located approximately twenty yards downstream from the bridge and ten feet upstream from the bridge.

There was oil on the surface of the creek and oil was observed on water flowing in the ditches coming from Pit A. There appears to be other oil well installations upstream. This station is important to the total survey because the confluence of the tributary is upstream from Station C-2, which is the downstream station of the Ashley survey.

On February 10, March 1, April 4 and May 3, 1972, biological samples were collected at a total of eleven stations on the Little Muddy River and tributaries at Ashley, Illinois. The purpose was to determine the condition of stream environments downstream from the Ashley sewage lagoons.

Station A-1: An unnamed tributary, upstream fifty yards from the south lagoon discharge, was balanced.

Station A-2: An unnamed tributary, fifty yards upstream from the north lagoon discharge, was unbalanced. The condition is probably a result of naturally occurring organic enrichment from a swampy area observed upstream.

Station C-1: An unnamed tributary, downstream one-hundred yards from the confluence of the two tributaries, A-1 and A-2, was polluted. Station C-1 is one-half mile upstream from the Little Muddy River.

Station C-2: An unnamed tributary, downstream one mile from the discharges, was unbalanced. Station C-2 is one-hundred yards upstream from the river.

Station C-3: The Little Muddy River, downstream one and one-quarter mile from discharge, was unbalanced. Confluence of the waste-bearing tributary is one-quarter mile upstream.

Station C-4: The Little Muddy River, downstream two miles from discharge, was polluted. A tributary, which flows through an oil field, has its confluence with the river between C-3 and C-4.

Station C-5: The Little Muddy River, four miles downstream from discharge, was unbalanced.

Station D-1: The Little Muddy River, at Rt. #15 upstream one and one-half miles from the confluence of the waste-bearing tributary, was balanced.

Station D-2: The Little Muddy River, three-quarter mile upstream from the confluence of the waste-bearing tributary, was semi-polluted. A tributary which flows through a cattle feedlot has its confluence with the river between D-1 and D-2.

Station D-3: The Little Muddy River, two-hundred yards upstream from the waste-bearing tributary, was balanced.

Station D-4: An unnamed tirbutary, which has its confluence with the river between C-3 and C-4, was polluted.

Comments:

All distances referred to are approximations. The environment at Station C-3 was not disrupted to the degree that it was at C-4. The environment at D-4 was polluted, therefore, degradation of the environment at Station C-4 may be attributable to the pollutant or pollutants influencing D-4.

The environment at D-3 was balanced and at C-3 it was unbalanced, a condition which may be attributable to the confluence of the tributary bearing lagoon effluents.

Summary and Discussion of 1975 Water Quality Problems and Violations

Parameters in violation of general use WQS, their values and sampling dates at the three WQSS within this segment are presented in Tables 5 through 7. Sources contributing or possibly contributing to the water quality violations shown are presented in Tables 8-13.

NE-04:

The parameters in violation of the water quality standards at the water quality sampling station NE-04 (Little Muddy River) are fecal coliform, field dissolved oxygen, total iron, and manganese. The maximum recorded values of fecal coliform, total iron, and manganese were 13,000/100 ml, 15.00 mg/l, and 9.75 mg/l, respectively. The minimum recorded field dissolved oxygen was 2.5 mg/l.

The point source discharges contributing to the fecal coliform violations are as listed in the Table 8. The effluent from Mulkeytown School 32 was not analyzed during 1975. The Ashley SD. S. Lagoon effluent contains a very high count of fecal coliform. The completion of the planned expansion of this facility to a three-cell lagoon with algae removal and disinfection may take care of this problem. Any fecal coliform coming from scattered livestock in the area would continue, especially during high rainfall events.

The total iron and manganese violations are directly attributable to mine related activities: gob roads, gob piles, and abandoned mines which are common in the area.

Low field dissolved oxygen may be due to high oxygen demanding wastes emanating from the non-point agricultural sources and from the conversion of ferrous to ferric iron. Perhaps the smaller discharges in this segment add to this situation. Also, low field dissolved oxygen during the months of June through November may be due to near or higher than optimum water temperature (69, 77, 75, 66, 56, 59°F) aiding increased activities of the oxygen demanding organisms. Another factor causing low field dissolved oxygen could be the flow conditons (velocity and depth) of the stream, especially when the 7-day 10-year low flow values are zero, unfavorable to natural reaeration of the stream. It, therefore, appears at this time that any further point source control (of the known point sources) may not help the dissolved oxygen problem at the WQSS NE-04.

NEB-01:

The parameters in violation of the WQS at the WQSS NEB-01 (Reese Creek) are fecal coliform, field dissolved oxygen, total iron, and manganese. The maximum recorded values of fecal coliform, total

iron, and manganese were 1500/100 ml, 2.00 mg/l, and 2.24 mg/l, respectively. The minimum recorded field dissolved oxygen was 4.9 mg/l.

The point source discharges contributing to the fecal coliform violations are as listed in the Table 10. The effluent from Tamaroa Grade School and Mapco Village 1 were not analyzed during 1975. However, the effluents from DuQuoin STW and Tamaroa High School contain a very high count of fecal coliform. With an exception of DuQuoin STW, none have chlorination facilities. The fecal coliform problem could be reduced if the point source discharges are required to chlorinate their effluents before discharging into the stream.

The total iron and manganese violations are directly attributable to mine related activities: gob roads, gob piles, abandoned mines, and one permitted mine.

Low field dissolved oxygen probably can be improved if permit conditions impose treatment to 1.5 mg/l of ammonia nitrogen for the point source discharges listed in Table 10. Conversion of ferrous iron to ferric iron no doubt is contributing to the low dissolved oxygen violation.

NE-03:

The parameters in violation of the water quality standards at the water quality sampling station NE-03 (Little Muddy River) are fecal coliform, total iron, total dissolved solids, sulfate and manganese. The maximum recorded values of fecal coliform, total iron, total dissolved solids, sulfate and manganese were 4500/100 ml., 2.9 mg/l, 1740 mg/l, 1350 mg/l, and 1.3 mg/l, respectively.

The point source discharges contributing to the fecal coliform violations are as listed in Table 12. The effluent from Elkville STW was not analyzed during 1975. However, the effluents from Country Set Inc. and Desoto STW contain very high counts of fecal coliform. Also, another reason for a high fecal coliform count at this water quality sampling station is that a high count of fecal coliform is coming from the upstream water quality sampling station NE-04 and NEB-01. The fecal coliform problem at this location could be reduced if the point source discharges, directly contributing, disinfect their effluent before discharging into the stream and the fecal coliform contribution from upstream water quality sampling stations is reduced. The total iron, total dissolved solids, sulfate, and manganese violations are directly attributable to upstream WQSS and mine related activities: gob roads, gob piles, abandoned mines, and three permitted mines.

Some dissolved oxygen depletion was detected at this station but the level did not drop below 5.0 mg/l at the times of sampling.

Water Quality Violations That Will Remain After Point Source Controls Are Operational

The following water quality parameters are being violated; these violations will not be corrected by control of known point source discharges:

NE-04:	Total iron, manganese
NEB-01:	Total iron, manganese
NE-03:	Total iron, total dissolved solids, manganese, sulfate

In addition to those parameters above, the following parameter violations probably will not be corrected by control of known point source discharges:

NE-04:	fecal coliform, dissolved oxygen
NEB-01:	fecal coliform, dissolved oxygen
NE-03:	fecal coliform

TABLE: 5 PARAMETERS IN VIOLATION OF WATER QUALITY STANDARDS (GENERAL USE) AT STATION NE-04 FOR 1975

PARAMETER AND LIMIT	PARAMETER VALUE	SAMPLE DATE
fecal coliform 200/100 ml	2700	12/04
	300	9/17
	280	6/12
	13000	5/01
	790	4/01
	2800	3/12
	630	1/06
dissolved oxygen 5 mg/l	2.5	11/05 59°F
	4.2	10/01 56°F
	3.8	9/17 66°F
	2.9	8/06 75°F
	3.0	7/02 77°F
	4.2	6/12 69°F
total iron 1.0 mg/l	1.4	11/05
	15.0	5/01
manganese 1.0 mg/l	9.75	11/05
	1.05	5/01

TABLE: 6 PARAMETERS IN VIOLATION OF WATER QUALITY STANDARDS (GENERAL USE) AT STATION NEB-01 FOR 1975

PARAMETER AND LIMIT	PARAMETER VALUE	SAMPLE DATE
fecal coliform 200/100 ml	680	12/04
	230	8/06
	300	7/02
	520	6/12
	910	4/01
	1500	3/12
	720	2/11
	1500	1/06
manganese 1.0 mg/1	1.37	7/02
	2.25	6/12
total iron 1.0 mg/1	1.2	6/12
	2.0	3/12
dissolved oxygen 5 mg/1	4.9	5/01 64°F

TABLE: 7 PARAMETERS IN VIOLATION OF WATER QUALITY STANDARDS (GENERAL USE) AT STATION NE-03 FOR 1975

PARAMETER AND LIMIT	PARAMETER VALUE	SAMPLE DATE
fecal coliform 200/100 ml	4500	12/17
	270	10/02
	240	9/30
	790	8/06
	250	7/14
	210	2/13
	280	1/22
total iron 1.0 mg/l	2.7	7/14
	1.9	4/15
	2.9	1/22
total dissolved solids 1000 mg/l	1740	4/15
manganese 1.0 mg/l	1.3	4/15
sulfate 500 mg/l	1350	4/15

TABLE: 8 POINT SOURCES CONTRIBUTING/POSSIBLY CONTRIBUTING TO WATER QUALITY VIOLATIONS

Water Quality Station: NE-04

Key: x contained in effluent x 1975 effluent violation	PARAMETERS BEING VIOLATED AT WATER QUALITY SAMPLING STATION							
Pollutant Source	F.C.	DO	Tot.Fe	Mn				
Ashley S.D. N Lgn	x	x						
Ashley S.D. S. Lgn	x	x						
Dubois Center Church Camp	x	x						
Mulkeytown School 32	x	x						

Table: 9
Water Quality Sampling Stations NE-04

Pollutant Source	PARAMETERS BEING VIOLATED							
	F.C.	DO	Tot Fe	Mn				
Upstream WQSS								
Agricultural Runoff	x	x						
Silvicultural Runoff								
Mining (strip & sub-surface)			x	x				
Urban Stormwater Runoff								
Solid Waste Leachate			x	x				
Construction Site Runoff								
Septic Tank Leachate								

TABLE: 10 POINT SOURCES CONTRIBUTING/POSSIBLY CONTRIBUTING TO WATER QUALITY VIOLATIONS

Water Quality Station: NEB-01

Key: x contained in effluent x 1975 effluent violation	PARAMETERS BEING VIOLATED AT WATER QUALITY SAMPLING STATION							
Pollutant Source	F.C.	Field DO	Tot Fe	Mn				
Tamaroa H. S.	x	x	x	x				
Tamaroa Grade School		x						
DuQuoin STW	x	x						
Mapco Village 1		x						

Table: 11
Water Quality Sampling Stations NEB-01

Pollutant Source	PARAMETERS BEING VIOLATED							
	F.C.	Field DO	Tot Fe	Mn				
Upstream WQSS								
Agricultural Runoff	x							
Silvicultural Runoff								
Mining (strip & sub-surface)		x	x	x				
Urban Stormwater Runoff								
Solid Waste Leachate								
Construction Site Runoff								
Septic Tank Leachate								

TABLE: 12 POINT SOURCES CONTRIBUTING/POSSIBLY CONTRIBUTING TO WATER QUALITY VIOLATIONS

Water Quality Station: NE-03

Key: x contained in effluent x 1975 effluent violation	PARAMETERS BEING VIOLATED AT WATER QUALITY SAMPLING STATION							
Pollutant Source	F.C.	Tot Fe	TDS	Mn	Sulfate			
County Set Inc.	x							
Desoto STW	x							
Elkville STW								

Table: 13
Water Quality Sampling Stations NE-03

Pollutant Source	PARAMETERS BEING VIOLATED							
	F.C.	Total Fe	TDS	Mn	Sulfate			
Upstream WQSS								
Agricultural Runoff	x							
Silvicultural Runoff								
Mining (strip & sub-surface)		x	x	x	x			
Urban Stormwater Runoff								
Solid Waste Leachate								
Construction Site Runoff								
Septic Tank Leachate								

Big Muddy River Basin

Segment A-04

This segment extends over portions of Washington, Randolph, Perry and Jackson Counties and includes the watershed of Beaucoup Creek. There are six Illinois Environmental Protection Agency (IEPA) water quality sampling stations (WQSS) within this segment. Three water quality sampling stations are located on Beaucoup Creek, one of which is given a sample type code 1 and 4, whereas the other two are given a sample type code (see Appendix E) 1. The remaining three water quality sampling stations, one of which is located on Rattlesnake Creek and two are located on Galum Creek, are given a sample type code 1. An exact location of each water quality sampling station is given in Tables 1-6.

There is one United States Geological Survey (USGS) stream gaging station, number 05599000, located on Beaucoup Creek near Matthews, Illinois. This gaging station is at the same location as that of Illinois Environmental Protection Agency water quality sampling station NC-03.

There are eighteen point source discharges within this segment. Of these eighteen discharges, four are identified as industrial, four are identified as municipal, and the remaining ten are identified as miscellaneous. There is one water treatment facility having a surface discharge within this segment located on Beaucoup Creek in Pinckneyville. Three landfills, Nashville/Barr (west of Ashley), DuQuoin Township/Co Bd Com (west of DuQuoin) and DeSoto/Bryant & Graft are also within this segment.

Seventeen permitted coal mine discharges are within this segment. Of these seventeen, five belong to Amax Coal Company, six belong to Consolidation Coal Company, three belong to Southwestern Illinois Coal Corporation and three belong to Freeman United Coal Corp.

Existing Water Quality

A summary of the existing (1975 calendar year) water quality in terms of maximum, minimum, and mean values for nine of the parameters at the 6 IEPA water quality sampling stations (WQSS) is presented in Tables 1-6. The nine parameters are fecal coliform , dissolved oxygen, total suspended solids, total phosphorus, nitrate nitrogen, ammonia nitrogen, total iron, total dissolved solids, and pH. The units applicable to each parameter are shown in the tables. A discussion of the water quality summary tables is included in conjunction with "Summary and Discussion of 1975 Water Quality Problems and Violations".

TABLE: 1
Station: NC-05: Rt 154 Br at E Edge of Pinckneyville

	Fecal Coli #/100 ml	DO mg/l	TSS mg/l	Total P mg/l	NO_3-N mg/l	NH_3-N mg/l	Iron Total mg/l	TDS mg/l	pH
MAXIMUM	67000	13.0	-	2.500	1.8	.80	20.1	490	7.6
MINIMUM	330	3.6	-	.170	.4	.12	.6	150	6.8
MEAN	3317	8.2	-	.747	.8	.34	6.0	320	7.2

TABLE: 2
Station: NC-03: Rt 13 - 127 Br 5 Mi N of Vergennes

	Fecal Coli #/100 ml	DO mg/l	TSS mg/l	Total P mg/l	NO_3-N mg/l	NH_3-N mg/l	Iron Total mg/l	TDS mg/l	pH
MAXIMUM	12000	12.4	-	.560	1.0	.35	14.0	780	7.9
MINIMUM	0	5.4	-	.050	.1	.05	.8	170	7.2
MEAN	337	8.5	-	.215	.5	.14	6.2	474	7.5

TABLE: 3
Station: NCD-02: Co Rd Br 3 Mi W of Pyramid St Pk

	Fecal Coli #/100 ml	DO mg/l	TSS mg/l	Total P mg/l	NO_3-N mg/l	NH_3-N mg/l	Iron Total mg/l	TDS mg/l	pH
MAXIMUM	33000	12.6	-	.650	2.0	.62	13.5	920	7.9
MINIMUM	90	2.4	-	.100	.0	.00	3.3	110	7.2
MEAN	895	7.8	-	.316	.7	.18	8.4	442	7.4

TABLE: 4
Station: NCD-01: Co Rd Br 6 Mi N of Oraville

	Fecal Coli #/100 ml	DO mg/l	TSS mg/l	Total P mg/l	NO_3-N mg/l	NH_3-N mg/l	Iron Total mg/l	TDS mg/l	pH
MAXIMUM	13,000	12.0	-	.730	15.0	1.50	15.0	410	8.2
MINIMUM	200	5.8	-	.110	.6	.00	1.5	53	6.7
MEAN	1117	9.0	-	.270	3.1	.33	5.1	235	7.5

TABLE: 5
Station: NCB-01: Rt 4 Br 1 Mi N of Oraville

	Fecal Coli #/100 ml	DO mg/l	TSS mg/l	Total P mg/l	NO_3-N mg/l	NH_3-N mg/l	Iron Total mg/l	TDS mg/l	pH
MAXIMUM	17000	12.5	-	.420	4.5	.20	2.0	340	8.2
MINIMUM	30	6.4	-	.040	.0	.00	1.5	150	7.1
MEAN	367	10.1	-	.145	1.1	.08	1.7	236	7.5

TABLE: 6
Station: NC-02: Rt 149 Br 1.5 Mi E of Rt 13

	Fecal Coli #/100 ml	DO mg/l	TSS mg/l	Total P mg/l	NO_3-N mg/l	NH_3-N mg/l	Iron Total mg/l	TDS mg/l	pH
MAXIMUM	20000	13.3	-	.900	6.9	.54	24.0	880	8.1
MINIMUM	0	4.4	-	.080	.0	.00	1.2	210	6.6
MEAN	290	8.3	-	.304	1.7	.18	7.6	502	7.3

SUMMARY AND DISCUSSION OF WATER QUALITY INDICES (WQI)

Using four water quality parameters, dissolved oxygen, fecal coliform, total dissolved solids, and ammonia-nitrogen, water quality indices have been developed by the IEPA staff for each of the WQSS. The values of WQI have been compared with the findings and experiences of the IEPA field engineers and biological staffs. Based upon these values of the WQI, the WQSS have been assigned a rating of Good or Balanced (A), Average or Unbalanced (B), Fair or Semi-polluted (C), and Poor or Polluted (D). A summary of the WQI ratings from the years 1971 through 1975 for the WQSS within this segment is presented in Table 7. A detailed discussion about the WQI is presented in the Appendix C.

These water quality indices should, however, be taken with caution because they are based on water quality as measured in terms of four parameters only. Therefore, a rating of good or balanced (A), and average or unbalanced (B) assigned to any WQSS does not mean that other water quality parameters may not be in violation of the water quality standards at that WQSS.

Table 7 WATER QUALITY INDICES

STATION	1971	1972	1973	1974	1975
NC-05	D	A	B	B	B
NC-03	D	B	A	B	A
NCD-02		B	A	B	B
NCD-01	D	B	B	B	A
NCB-01		B	A	A	A
NC-02	C	B	B	B	A

It appears from the water quality index ratings that since 1971 the quality of water in Beaucoup Creek at sampling station NC-05 has improved from polluted in 1971 to unbalanced in 1975. The quality of water at sampling station NC-03 in Beaucoup Creek improved from polluted in 1971 to balanced in 1975. At sampling station NC-02 in Beaucoup Creek the quality of water improved from semi-polluted in 1971 to balanced in 1975. The quality of water at sampling station NCD-02 on Galum Creek was unbalanced in 1972 and again in 1975. The water quality at sampling station NCD-01 on Galum Creek has improved from polluted in 1971 to balanced in 1975. The quality of water in Rattlesnake Creek at sampling station NCB-01 improved from unbalanced in 1972 to balanced in 1975.

Summary and Discussion of Aquatic Life Survey Reports

On June 30, 1975, July 1 and July 3, 1975, qualitative biological samples were collected from eleven stations in the vicinity of the Southwestern Illinois Coal Corporation Captain Mine near Cutler, Illinois. The purpose was to document the condition of stream environments upstream and downstream from the Captain Mine Main Pit and Denmark Pit.

Station A-1: An unnamed tributary of Pipestone Creek, approximately 200 yards downstream from Cutler municipal sewage treatment lagoon, was semi-polluted.

Station A-2: An unnamed tributary of Pipestone Creek, approximately 500 yards downstream from Cutler lagoon, was semi-polluted.

Station A-3: An unnamed tributary of Pipestone Creek, 50 to 60 yards upstream from a north-south mine raod, was semi-polluted.

Station C-1: Pipestone Creek, approximately 0.3 mile downstream from the easternmost Main Pit discharge, was unbalanced. Gray sediment averaged about 0.7 feet deep in pool areas.

Station C-2: Pipestone Creek, approximately 1.6 miles downstream from the Main Pit, was unbalanced. Gray sediment averaged about 0.4 foot deep in pool areas.

Station C-3: Pipestone Creek, approximately 1.9 miles downstream from the Main Pit, was unbalanced. Gray sediment averaged about 0.5 foot deep in pool areas.

Summary and Discussion of 1975 Water Quality Problems and Violations

Parameters in violation of general use water quality standards, their values and sampling dates for all the water quality sampling stations within this segment are presented in Tables 8-13. Sources contributing or possibly contributing to the water quality violations shown are presented in Tables 14-24.

NC-05:

The parameters in violation of the water quality standard at water quality sampling station NC-05 (Beaucoup Creek) are fecal coliform, field dissolved oxygen, total iron, and manganese. The maximum recorded values of fecal coliform, total iron, and manganese were 67,000 /100 ml 20.1 milligrams per liter, and 1.1 milligrams per liter, respectively. The minimum recorded field dissolved oxygen and 3.6 milligrams per liter.

The point source discharges contributing to the fecal coliform violations are as listed in Table 14. Fecal coliform violations are also attributable to livestock operations in the area.

Low field dissolved oxygen could be a direct result of point sources discharging high ammonia nitrogen and carbonaceous oxygen demand from non-point sources, including the chemical conversion of ferrous to ferric iron. It is likely that field dissolved oxygen values would improve if discharge of ammonia nitrogen from Pinckneyville STW, US Gypsum Company and Decca Records in the stream is reduced.

Total iron and manganese violations could be attributed to mine related problems: gob roads, gob piles, and abandoned mines. Point source control would not eliminate these problems.

NC-03:

The paramenters in violation of the water quality standard at the water quality sampling station NC-03 (Beaucoup Creek) are fecal coliform, total iron, and sulfate. The maximum recorded values of fecal coliform, total iron, and sulfate were 12,000 /100 ml, 14.0 milligrams per liter, and 1150 milligrams per liter, respectively.

The total iron and sulfate could be attributed to the Consolidation Coal Company active mine and abandoned mines, gob roads, and gob piles in the area.

The only point source discharge, Consolidation Midwest Division-Ct, contributing to the fecal coliform violations is as listed in Table 16. This treatment plant has a chlorination facility. Probably the fecal coliform problem is coming from scattered livestock operations in the area, and also is being propagated from upstream water quality sampling station NC-05.

NCD-02:

The parameters in violation of the water quality standard at the water quality sampling station NCD-02 (Galum Creek) are fecal coliform, field dissolved oxygen, total iron, and copper. The maximum recorded values of fecal coliform, total iron, and copper were 33,000 /100 ml, 13.5 milligram per liter, and 0.03 milligram per liter, respectively. The minimum recorded field oxygen was 2.4 milligram per liter.

The total iron and copper violations are directly attributed to mine related activities: gob roads, gob piles, abandoned mines and active mines.

The point source discharges contributing to fecal coliform violations are listed in Table 18. The Cutler STW does not have chlorination.

Disinfection facilities at Cutler STW would probably reduce fecal coliform violations at this water quality sampling station unless the major portion of the fecal coliform is from scattered livestock in the area.

Low field dissolved oxygen could be due to high ammonia nitrogen discharges from the Cutler STW, and from the conversion of ferrous to ferric iron. Also, low field dissolved oxygen during the months of July, August, and November may be due to high water temperatures (78, 74, and 62 F) aiding increased activities of the oxygen demanding organisms. Another factor causing low field dissolved oxygen could be the flow conditions (velocity and depth) of the stream, especially when the seven-day ten-year low flow values are zero, unfavorable to natural reaeration of the stream.

NCD-01:

The parameters in violation of the water quality standard at sampling station NCD-01 (Gallum Creek) are fecal coliform, total iron, and sulfate. The maximum recorded values of fecal coliform, total iron, and sulfate were 13,000 /100 ml, 15.00 milligram per liter, and 2200 milligram per liter, respectively.

The total iron and sulfate are directly attributable to mine related activities: gob roads, gob piles, abandoned mines and permitted active mines.

There is no known point source discharge contributing to the fecal coliform violations at this location. It is probably coming from upstream water quality sampling station NCD-02 and scattered livestock operations in the area.

NCB-01:

The parameters in violation of the water quality standard at sampling station NCB-01 (Rattle Snake Creek) are fecal coliform, copper, total iron, and manganese. The maximum recorded values of fecal coliform, copper, total iron, and manganese were 17,000 /100 ml, 0.05 milligram per liter, 2.0 milligram per liter, and 1.12 milligram per liter, respectively.

The total iron, manganese, and copper violations of water quality standards are directly attributable to mine related activities: gob roads, gob piles, abandoned and active mines.

The only point source discharge contributing to the fecal coliform violations is AVA STW as listed in Table 21. Introduction of disinfection at Ava STW would reduce the fecal coliform violations at this location unless the major contribution is from scattered livestock in the area.

NC-02:

The parameters in violation of the water quality standards at sampling station NC-02 (Beaucoup Creek) are fecal coliform, field dissolved oxygen, total iron, copper, and manganese. The maximum recorded values of fecal coliform, total iron, copper and manganese were 20,000 /100 ml, 24.0 milligrams per liter, 0.05 milligrams per liter, and 3.3 milligrams per liter, respectively. The minimum recorded dissolved oxygen was 4.4 milligrams per liter.

The total iron, manganese, and copper are directly attributable to mine related activities: gob roads, gob piles, and abandoned mines in the area.

The point source discharges contributing to the fecal coliform violations are as listed in Table 23. Among the discharges sampled, two have chlorination facilities and two do not have chlorination. However, it appears that if chlorination of effluent from all discharges contributing directly to this water quality sampling station is practiced, the fecal coliform problem would be reduced. The contribution from scattered livestock in the area is not known.

Low field dissolved oxygen could be a direct result of chemical conversion of ferrous to ferric iron, and carbonaeous oxygen demand in the stream.

Water Quality Violations That Will Remain After Point Source Controls Are Operational

The following water quality parameters are being violated; these violations will not be corrected by control of known point source discharges:

NC-05:	Total iron, manganese
NC-03:	Sulfate, total iron
NCD-02:	Total iron, copper
NCD-01:	Total iron, **sulfate**
NCB-01:	Copper, total iron, manganese
NC-02:	Total iron, manganese, copper

In addition to those parameters above, the following parameter violations probably will not be corrected by control of known point source discharges:

NC-05:	fecal coliform, dissolved oxygen
NC-03:	fecal coliform
NCD-02:	fecal coliform, dissolved oxygen
NCB-01:	fecal coliform
NC-02:	fecal coliform, dissolved oxygen
NCD-01:	fecal coliform

TABLE: 8 PARAMETERS IN VIOLATION OF WATER QUALITY STANDARDS (GENERAL USE) AT STATION NC-05 FOR 1975

PARAMETER AND LIMIT	PARAMETER VALUE	SAMPLE DATE
fecal coliform 200/100 ml	2300	12/04
	330	11/05
	67000	10/02
	1500	9/04
	20000	8/06
	2400	7/02
	9600	6/11
	9000	5/01
	2500	4/01
	850	3/12
	880	2/04
	3000	1/06
dissolved oxygen 5 mg/l	4.1	11/05 60°F
	3.6	8/06 74°F
total iron 1.0 mg/l	1.2	8/06
	20.1	5/01
	2.3	2/04
manganese 1.0 mg/l	1.1	5/01

TABLE: 9 PARAMETERS IN VIOLATION OF WATER QUALITY STANDARDS (GENERAL USE) AT STATION NC-03 FOR 1975

PARAMETER AND LIMIT	PARAMETER VALUE	SAMPLE DATE
fecal coliform 200/100 ml	2300	12/04
	370	10/01
	300	9/04
	300	6/11
	12000	5/01
	270	4/03
	980	3/13
	420	2/04
	3300	1/09
sulfate 500 mg/1	1150	10/01
total iron 1.0 mg/1	3.8	4/03
	14.0	1/09

TABLE: 10 PARAMETERS IN VIOLATION OF WATER QUALITY STANDARDS (GENERAL USE) AT STATION NCD-02 FOR 1975

PARAMETER AND LIMIT	PARAMETER VALUE	SAMPLE DATE
fecal coliform 200/100 ml	4100	12/04
	420	11/05
	580	10/01
	400	9/04
	890	8/06
	400	7/02
	860	6/11
	33000	5/01
	690	3/13
	220	2/04
	4800	1/09
dissolved oxygen 5.0 mg/1	2.4	11/05 62°F
	4.5	8/06 74°F
	4.9	7/02 78°F
copper .02 mg/1	.03	5/01
total iron 1.0 mg/1	13.5	5/01
	3.3	2/04

TABLE: 11 PARAMETERS IN VIOLATION OF WATER QUALITY STANDARDS (GENERAL USE) AT STATION NCD-01 FOR 1975

PARAMETER AND LIMIT	PARAMETER VALUE	SAMPLE DATE
fecal coliform 200/100 ml	7800	12/17
	1100	11/25
	830	10/02
	290	9/08
	1300	8/06
	360	7/14
	700	6/11
	13000	5/01
	510	3/20
	760	2/24
	5600	1/09
total iron 1.0 mg/l	1.5	10/02
	1.6	7/14
	2.5	4/03
	15.0	1/09
sulfate 500 mg/l	1400	10/02
	2200	7/14
	575	4/03

TABLE: 12 PARAMETERS IN VIOLATION OF WATER QUALITY STANDARDS (GENERAL USE) AT STATION NCB-01 FOR 1975

PARAMETER AND LIMIT	PARAMETER VALUE	SAMPLE DATE
fecal coliform 200/100 ml	680	12/17
	510	10/02
	270	9/08
	260	8/06
	480	7/14
	680	6/11
	17000	5/01
	1700	1/09
copper .02 mg/1	.05	12/17
total iron 1.0 mg/1	1.9	12/17
	1.5	9/08
	1.6	6/11
	2.0	3/20
manganese 1.0 mg/1	1.12	9/08

TABLE: 13 PARAMETERS IN VIOLATION OF WATER QUALITY STANDARDS (GENERAL USE) AT STATION NC-02 FOR 1975

PARAMETER AND LIMIT	PARAMETER VALUE	SAMPLE DATE
fecal coliform 200/100 ml	20000	12/17
	8600	12/01
	320	10/02
	480	8/06
	360	7/14
	450	6/11
	3200	1/09
total iron 1.0 mg/l	1.2	10/02
	2.5	7/14
	2.8	4/15
	24.0	1/09
dissolved oxygen 5 mg/l	4.4	8/06 77°F
	4.6	7/14 75°F
manganese 1.0 mg/l	1.03	7/14
	1.6	4/15
	3.3	1/09
copper .02 mg/l	.05	1/09

TABLE: 14 POINT SOURCES CONTRIBUTING/POSSIBLY CONTRIBUTING TO WATER QUALITY VIOLATIONS

Water Quality Station: NC-05

Key: x contained in effluent x 1975 effluent violation	PARAMETERS BEING VIOLATED AT WATER QUALITY SAMPLING STATION							
Pollutant Source	F.C.	DO	Tot Fe	Mn				
Pinckneyville STW Cl_2	x	x						
U.S. Gypsum Co. Perry Cl_2		x						
MCA Records Ind. 001	x							
Lake Sallateeska Camp		x						
MCA Records Ind. 002								
MCA Records Dom 003		x						
Dept of Cons Wash Co.		x						
Comm. Consol. Sch. 212		x						

SOURCES CONTRIBUTING/POSSIBLY CONTRIBUTING
TO WATER QUALITY VIOLATIONS

Table: 15

Water Quality Sampling Stations NC-05

Pollutant Source	PARAMETERS BEING VIOLATED							
	F.C.	DO	Total Fe	Mn				
Upstream WQSS								
Agricultural Runoff	x	x	x					
Silvicultural Runoff								
Mining (strip & sub-surface)		x	x	x				
Urban Stormwater Runoff								
Solid Waste Leachate								
Construction Site Runoff								
Septic Tank Leachate								

TABLE: 16 POINT SOURCES CONTRIBUTING/POSSIBLY CONTRIBUTING TO WATER QUALITY VIOLATIONS

Water Quality Station: NC-03

Key: x contained in effluent x 1975 effluent violation	PARAMETERS BEING VIOLATED AT WATER QUALITY SAMPLING STATION							
Pollutant Source	F.C.	Sulfate	Total Fe					
Consol. Midw Div. Ctl Shop	x							

Table: 17
Water Quality Sampling Stations NC-03

Pollutant Source	PARAMETERS BEING VIOLATED							
	F.C.	Sulfate	Total Fe					
Upstream WQSS								
Agricultural Runoff	x		x					
Silvicultural Runoff								
Mining (strip & sub-surface)		x	x					
Urban Stormwater Runoff								
Solid Waste Leachate								
Construction Site Runoff								
Septic Tank Leachate								

TABLE: 18 POINT SOURCES CONTRIBUTING/POSSIBLY CONTRIBUTING TO WATER QUALITY VIOLATIONS

Water Quality Station: NCD-02

Key: x contained in effluent x̲ 1975 effluent violation	PARAMETERS BEING VIOLATED AT WATER QUALITY SAMPLING STATION							
Pollutant Source	F.C.	DO	Tot Fe	Cu				
Coulterville STW Cl_2	x̲	x						
Cutler STW	x̲	x						

Table: 19

Water Quality Sampling Stations NCD-02

Pollutant Source	PARAMETERS BEING VIOLATED							
	F.C.	DO	Tot Fe	Cu				
Upstream WQSS								
Agricultural Runoff	x		x					
Silvicultural Runoff								
Mining (strip & sub-surface)			x	x				
Urban Stormwater Runoff								
Solid Waste Leachate								
Construction Site Runoff								
Septic Tank Leachate								

SOURCES CONTRIBUTING/POSSIBLY CONTRIBUTING
TO WATER QUALITY VIOLATIONS

Table: 20
Water Quality Sampling Stations NCD-01

Pollutant Source	PARAMETERS BEING VIOLATED							
	F.C.	Tot Fe	SO_4					
Upstream WQSS								
Agricultural Runoff	x	x						
Silvicultural Runoff								
Mining (strip & sub-surface)		x	x					
Urban Stormwater Runoff								
Solid Waste Leachate		x	x					
Construction Site Runoff								
Septic Tank Leachate								

TABLE: 21 POINT SOURCES CONTRIBUTING/POSSIBLY CONTRIBUTING TO WATER QUALITY VIOLATIONS

Water Quality Station: NCB-01

Key: x contained in effluent x 1975 effluent violation	PARAMETERS BEING VIOLATED AT WATER QUALITY SAMPLING STATION							
Pollutant Source	F.C.	Cu	Tot Fe	Mn				
Ava STW	x							

Table: 22
Water Quality Sampling Stations NCB-01

Pollutant Source	PARAMETERS BEING VIOLATED							
	F.C.	Cu	Tot Fe	Mn				
Upstream WQSS								
Agricultural Runoff	x		x					
Silvicultural Runoff								
Mining (strip & sub-surface)		x	x	x				
Urban Stormwater Runoff								
Solid Waste Leachate								
Construction Site Runoff								
Septic Tank Leachate								

TABLE: 23 POINT SOURCES CONTRIBUTING/POSSIBLY CONTRIBUTING TO WATER QUALITY VIOLATIONS

Water Quality Station: NC-02

Key: x contained in effluent x 1975 effluent violation	PARAMETERS BEING VIOLATED AT WATER QUALITY SAMPLING STATION							
Pollutant Source	F.C.	Tot Fe	DO	Mn	Cu			
McElvain School 186	x		x					
Green Trees M.H. Cl_2	x		x					
Country Circle Tr. Pk			x					
Veach Oil Co.			x					
Elverado Comm. Unit Sch. Cl_2	x		x					
Consol. Midw Div 002								
Consol. Midw Div 004								
Mora Williams Tr. Pk.	x		x					

SOURCES CONTRIBUTING/POSSIBLY CONTRIBUTING
TO WATER QUALITY VIOLATIONS

Table: 24
Water Quality Sampling Stations NC-02

Pollutant Source	PARAMETERS BEING VIOLATED							
	F.C.	Tot Fe	DO	Mn	Cu			
Upstream WQSS								
Agricultural Runoff	x	x	x					
Silvicultural Runoff								
Mining (strip & sub-surface)		x	x	x	x			
Urban Stormwater Runoff								
Solid Waste Leachate								
Construction Site Runoff								
Septic Tank Leachate								
Land fills		x		x	x			

Big Muddy River Basin

Segment A-05

This segment is contained in a portion of Williamson County and includes Crab Orchard Creek headwaters to Crab Orchard Lake. There are two Illinois Environmental Protection Agency (IEPA) water quality sampling stations (WQSS) within this segment. Both water quality sampling stations ND-04 and ND-03 are located on Crab Orchard Creek. Station ND-03 is given a sample type code 1 (see Appendix E), and station ND-04 is given sample type codes 1 and 4. An exact location of each water quality sampling station is given in Tables 1 and 2.

There is one United States Geological Survey (USGS) stream gaging station, number 05597500, located on Crab Orchard Creek near Marion, Illinois within this segment. This USGS stream gaging station is at the same loation as that of the IEPA water quality sampling station ND-04.

There are five point source discharges within this segment. Of these five discharges, three are identified as municipal, and the other two are identified as miscellaneous.

There is one water treatment facility discharge within this segment located near Marion, Illinois. Two landfills, Marion/Cannon and Marion/Munc #2, are located north and northeast of Marion, Illinois, respectively.

Existing Water Quality

A summary of the existing (1975 calendar year) water quality in terms of maximum, minimum, and mean values for nine of the parameters at the 2 IEPA water quality sampling stations (WQSS) is presented in Tables 1-2. The nine parameters are fecal coliform, dissolved oxygen, total suspended solids, total phosphorus, nitrate nitrogen, ammonia nitrogen, total iron, total dissolved solids, and pH. The units applicable to each parameter are shown in the tables. A discussion of the water quality summary tables is included in conjunction with "Summary and Discussion of 1975 Water Quality Problems and Violations".

Summary of 1975 Sampling Data

TABLE: 1
Station: ND-04: Rt 13 Br 1 Mi E of Marion

	Fecal Coli #/100 ml	DO mg/l	TSS mg/l	Total P mg/l	NO_3-N mg/l	NH_3-N mg/l	Iron Total mg/l	TDS mg/l	pH
MAXIMUM	9800	14.0	-	.300	3.0	.40	4.9	1350	7.3
MINIMUM	0	6.3	-	.000	.1	.08	.7	170	6.4
MEAN	60	9.7	-	.042	.8	.22	2.6	653	6.9

TABLE: 2
Station: ND-03: I-57 Br 1.5 Mi S of Marion

	Fecal Coli #/100 ml	DO mg/l	TSS mg/l	Total P mg/l	NO_3-N mg/l	NH_3-N mg/l	Iron Total mg/l	TDS mg/l	pH
MAXIMUM	58000	11.1	-	4.500	6.3	5.05	1.9	620	7.5
MINIMUM	320	1.1	-	.380	.0	.38	.6	190	6.9
MEAN	8708	6.1	-	1.427	1.0	2.05	1.2	461	7.2

SUMMARY AND DISCUSSION OF WATER QUALITY INDICES (WQI)

Using four water quality parameters, dissolved oxygen, fecal coliform, total dissolved solids, and ammonia-nitrogen, water quality indices have been developed by the IEPA staff for each of the WQSS. The values of WQI have been compared with the findings and experiences of the IEPA field engineers and biological staffs. Based upon these values of the WQI, the WQSS have been assigned a rating of Good or Balanced (A), Average or Unbalanced (B), Fair or Semi-polluted (C), and Poor or Polluted (D). A summary of the WQI ratings from the years 1971 through 1975 for the WQSS within this segment is presented in Table 3. A detailed discussion about the WQI is presented in the Appendix C.

These water quality indices should, however, be taken with caution because they are based on water quality as measured in terms of four parameters only. Therefore, a rating of good or balanced (A), and average or unbalanced (B) assigned to any WQSS does not mean that other water quality parameters may not be in violation of the water quality standards at that WQSS.

Table 3 WATER QUALITY INDICES

STATION	1971	1972	1973	1974	1975
ND-04		B	B	A	A
ND-03		C	C	B	C

It appears from the water quality index ratings that since 1972 the quality of water in the Crab Orchard Creek at water quality sampling station ND-04 has improved from unbalanced to balanced in 1975. The quality of water at water quality sampling station ND-03 in the Crab Orchard Creek was semi-polluted in 1972 and in 1975.

Summary and Discussion of Aquatic Life Survey Reports

An aquatic life survey of Little Crab Orchard Creek was conducted by the IEPA biological staff in May 1973. A summary of the report is presented below.

On May 9 and 11, 1973, the IEPA biological staff made a stream survey of Little Crab Orchard Creek. The purpose of the survey was to determine the effects of the mine drainage in the Crab Orchard area on Little Crab Orchard Creek. A large number of abandoned mines drain into Little Crab Orchard Creek. On May 9, 1973, samples were collected at five locations. On May 11, 1973, samples were intended to be collected from Crab Orchard Creek and some of the tributaries of Little Crab Orchard Creek. However, because of flood conditions and road construction in the area, it was impossible to obtain adequate samples in this area. As a result, only one sample at one location was collected.

On May 9, 1973, at the first sampling point (located at the upper most reach of the Little Crab Orchard Creek), the water was turbid and the flow was estimated to be 300 gpm. The stream bed in this area appeared to be normal. Laboratory analysis of the sample collected is available in IEPA files.

The next sampling point, downstream of first sampling point was below the drainage from the Parton Mine. The discharge from this mine would be the only known drainage affecting this stream. At this point, the water was slightly turbid and contained an orange-colored floc. The stream bed contained a heavy concentration of orange deposits. Laboratory analysis of the sample may be found in IEPA files.

The third sample was collected at a point on the tributary to Little Crab Orchard Creek. A large number of abandoned deep and strip mines drain through this drainage course. At this point, the water was clear. The stream bed contained coal fines and orange-colored deposits.

A fourth sampling point was located north of the Black Diamond Mine on Route 13. This sampling point was above any drainage from the Black Diamond Mine. At this point, the stream bed contained orange-colored deposits and coal fines. The water was slightly turbid. Laboratory analysis results are available in IEPA files.

Fifth sampling point was downstream of the fourth sampling point in Little Crab Orchard Creek, below drainage from a number of abandoned mines, including the Black Dimmond Mine, Parton Mine, and Barbara Kay Mine. The water flowing in the stream at this point was slightly turbid. The water contained orange-colored floc particles. The stream bed contained a concentration of coal fines. Laboratory analysis results can be found in the IEPA files.

On May 10, 1973, the survey in this stream was deferred because the flooded condition of Crab Orchard Creek would not allow an adequate survey to be made on this date.

On May 11, 1973, IEPA biologists returned to Crab Orchard Creek in an attempt to complete the survey; however, it was found that the water in Crab Orchard Creek was still out of bank and would not allow adequate samples to be collected. One sample was collected on this date at a sampling point approximately three-fourths of a mile north of the fifth sampling point. This point was on a small tributary to Little Crab Orchard Creek. The water at this point was slightly turbid. The stream bed appeared to be normal. Laboratory analysis results are in the IEPA file.

Summary and Discussion of 1975 Water Quality Problems and Violations

Parameters in violation of general use water quality standards, their values and sampling dates at the two water quality sampling stations within this segment are presented in Tables 4 and 5. Sources contributing or possibly contributing to the water quality violations shown are presented in Tables 6-9.

ND-04:

The parameters in violation of the water quality standard at the water quality sampling station ND-04 (Crab Orchard Creek) are fecal coliform, sulfate, pH, total dissolved solids, total iron, and manganese. The maximum recorded values of fecal coliform, sulfate, total dissolved solids, total iron, and manganese were 9800/100 ml, 925 milligrams per liter, 1350 milligrams per liter, 4.9 milligrams per liter, and 2.80 milligrams per liter, respectively. The minimum recorded pH was 6.4.

There is one point source discharge, Crab Orchard High and Grade School, which may be contributing to fecal coliform violations. However, the effluent from this discharge was not sampled in 1975 but this discharge has disinfection facilities. If the disinfection facilities are working properly, the only source for fecal coliform violations is scattered livestock operations in the area. Point source control would not eliminate this problem. However, efforts should be made to find if there are livestock production facilities in this area.

The violations of total iron, manganese, sulfate, pH, and total dissolved solids are directly attributable to mine related activities in the area, especially in the Little Crab Orchard watershed. This is supportable with the findings of the Aquatic Life Survey conducted by the IEPA biological staff in May, 1973.

ND-03:

The parameters in violation of the water quality standard at water quality sampling station ND-03 (Crab Orchard Creek) are fecal coliform, field dissolved oxygen, ammonia nitrogen, total iron, and manganese. The maximum recorded values of fecal coliform, ammonia nitrogen, total iron, and manganese were 58,000/100 ml, 5.05 milligrams per liter, 1.9 milligrams per liter, and 1.85 milligrams per liter, respectively. The minimum recorded field dissolved oxygen was 1.1 milligrams per liter.

The point source discharges contributing to the fecal coliform and ammonia nitrogen violations are attributable to the Marion treatment plants. Also, additional fecal coliform may be coming from upstream or scattered livestock operations in the area.

The ammonia nitrogen violation of the general use water quality standard is attributed to effluent discharges from the three treatment facilities in Marion. All these treatment plants have processes to remove small portions of ammonia nitrogen from their effluents. There is an expansion and upgrading plan for Marion STW to be completed by April 1, 1977. Stringent requirements for ammonia nitrogen removal (treatment to 1.5 milligrams per litre ammonia nitrogen) at these treatment facilities will probably remove the ammonia nitrogen violations at this water quality sampling station.

Low field dissolved oxygen could be the direct result of high ammonia nitrogen and chemical conversion of ferrous iron to ferric iron, and carbonaceous oxygen demand in the stream. Also, low field dissolved oxygen during the months of May through November (except August) could be due to high water temperatures (65, 78, 78, 78, 59, and 47°F) which increase activities of the oxygen demanding organisms in the stream. Another factor causing low field dissolved oxygen could be the flow conditions (velocity and depth) of the stream, especially when the seven-day ten-year low flow values are zero, unfavorable to natural reaeration of the stream. The stream in the vicinity of this water quality sampling station is in the pooled backwater of Crab Orchard Lake. Consequently, the stream flow is sluggish. It, therefore, appears at this time that further point source control (ammonia nitrogen removal from the effluents) would help the dissolved oxygen problem but may not completely eliminate it at the water quality sampling station ND-03.

Total iron and manganese violations of the water quality standards are directly attributable to mine related activites in the area.

It is noted here that the sulfate, pH, and total dissolved solids violations recorded at upstream water quality sampling station ND-04 and attributed to mine related activities are not propagated at downstream water quality sampling station ND-03.

Water Quality Violations That Will Remain After Point Source Controls Are Operational

The following water quality parameters are being violated; these violations will not be corrected by control of known point source discharges:

ND-03: manganese, total iron, and dissolved oxygen
ND-04: manganese, total iron, sulfate, pH, total dissolved solids

In addition to those parameters above, the following parameter violations probably will not be corrected by control of known point source discharges:

ND-03: fecal coliform and ammonia nitrogen
ND-04: fecal coliform

TABLE: 4 PARAMETERS IN VIOLATION OF WATER QUALITY STANDARDS (GENERAL USE) AT STATION ND-04 FOR 1975

PARAMETER AND LIMIT	PARAMETER VALUE	SAMPLE DATE
fecal coliform 200/100 ml	9800	12/16
	230	8/04
	310	6/17
	280	5/13
total iron 1.0 mg/1	4.9	12/16
	3.8	3/06
manganese 1.0 mg/1	1.58	9/26
	2.20	6/17
	2.80	3/06
sulfate 500 mg/1	800	9/26
	925	6/17
	700	3/06
pH 6.5 to 9.0	6.4	5/13
total dissolved solids 1000 mg/1	1350	4/15
total phosphorus 0.05 mg/1	0.3	12/16

TABLE: 5 PARAMETERS IN VIOLATION OF WATER QUALITY STANDARDS (GENERAL USE) AT STATION ND-03 FOR 1975

PARAMETER AND LIMIT	PARAMETER VALUE	SAMPLE DATE
fecal coliform 200/100 ml	320	12/11
	49000	11/21
	58000	10/07
	2900	9/08
	680	8/13
	11000	7/14
	4000	6/17
	30000	5/08
	16000	4/03
	6500	3/06
	30000	2/11
	25,800	1/14
dissolved oxygen 5.0 mg/1	1.1	11/21 47°F
	1.7	10/07 59°F
	3.6	9/08 78°F
	4.2	7/14 78°F
	4.0	6/17 78°F
	3.2	5/08 65°F
ammonia nitrogen 1.5 mg/1	4.8	11/21
	5.05	10/07
	2.90	9/08
	3.3	8/13
	1.8	7/14
	1.6	6/17

cont. on next page

TABLE: 5 cont. PARAMETERS IN VIOLATION OF WATER QUALITY STANDARDS (GENERAL USE) AT STATION ND-03 FOR 1975

PARAMETER AND LIMIT	PARAMETER VALUE	SAMPLE DATE
total phosphorus 0.05 mg/l	0.8	12/11
	0.57	11/27
	4.5	10/07
	2.4	9/08
	3.3	8/13
	1.4	7/14
	1.2	6/17
	0.85	5/08
	0.38	9/03
	0.5	3/06
	0.73	2/11
	0.49	1/14
manganese 1.0 mg/l	1.17	11/21
	1.85	5/08
	1.70	2/11
total iron 1.0 mg/l	1.9	5/08
	1.4	2/11

TABLE: 6 POINT SOURCES CONTRIBUTING/POSSIBLY CONTRIBUTING TO WATER QUALITY VIOLATIONS

Water Quality Station: ND-04

Key: x contained in effluent x 1975 effluent violation	PARAMETERS BEING VIOLATED AT WATER QUALITY SAMPLING STATION							
Pollutant Source	F.C.	Total Fe	Mn	Sulfate	pH	TDS		
Crab Orchard High & Grade School	ND	ND	ND	ND	ND	ND		

Table: 7
Water Quality Sampling Stations ND-04

Pollutant Source	PARAMETERS BEING VIOLATED							
	F.C.	Tot Fe	Mn	Sulfate	pH	TDS		
Upstream WQSS								
Agricultural Runoff	x	x	–			x		
Silvicultural Runoff								
Mining (strip & sub-surface)		x	x	x	x	x		
Urban Stormwater Runoff								
Solid Waste Leachate								
Construction Site Runoff						x		
Septic Tank Leachate								

TABLE: 8 POINT SOURCES CONTRIBUTING/POSSIBLY CONTRIBUTING TO WATER QUALITY VIOLATIONS

Water Quality Station: ND-03

Key: x contained in effluent x 1975 effluent violation	PARAMETERS BEING VIOLATED AT WATER QUALITY SAMPLING STATION							
Pollutant Source	F.C.	DO	NH_3-N	Mn	Tot Fe			
Marion STW	x		x					
Marion STW SW 003	x		x					
Marion STW NW	x		x					
Tom's Bar-B-Q								

Table: 9
Water Quality Sampling Stations ND-03

Pollutant Source	PARAMETERS BEING VIOLATED							
	F.C.	DO	NH_3-N	Mn	Tot. Fe			
Upstream WQSS								
Agricultural Runoff	x	x	x					
Silvicultural Runoff								
Mining (strip & sub-surface)				x	x			
Urban Stormwater Runoff								
Solid Waste Leachate		x		x	x			
Construction Site Runoff								
Septic Tank Leachate								

Big Muddy River Basin

Segment A-06

This segment extends over portions of Williamson, Johnson, Union, and Jackson Counties and includes Crab Orchard Lake and tributaries (except Crab Orchard Creek). There is one Illinois Environmental Protection Agency (IEPA) water quality sampling station within this segment. This water quality sampling station is located at Crab Orchard Lake Dam and is given a sample type code (see Appendix E.) 1. It appears from WQI rating that this WQSS ND-02 has continually had good or balanced water quality.

An exact location of this water quality sampling station is given on Table 1.

There is one United States Geological Survey (USGS) stage recording station, number 05598000, located on Crab Orchard Lake near Carterville, Illinois within this segment.

There are twelve point source discharges within this segment. Of these twelve discharges, one is identified as municipal and eleven are miscellaneous.

Existing Water Quality

A summary of the existing (1975 calendar year) water quality in terms of maximum, minimum, and mean values for nine of the parameters at the 1 IEPA water quality sampling stations (WQSS) is presented in Table 1. The nine parameters are fecal coliform, dissolved oxygen, total suspended solids, total phosphorus, nitrate nitrogen, ammonia nitrogen, total iron, total dissolved solids, and pH. The units applicable to each parameter are shown in the tables. A discussion of the water quality summary tables is included in conjunction with "Summary and Discussion of 1975 Water Quality Problems and Violations".

Summary of 1975 Sampling Data

TABLE: 1
Station: ND-02: Co Line Rd Br at Crab Orchard Dam

	Fecal Coli #/100 ml	DO mg/l	TSS mg/l	Total P mg/l	NO_3-N mg/l	NH_3-N mg/l	Iron Total mg/l	TDS mg/l	pH
MAXIMUM	40	15.2	--	.280	11.0	.30	.7	240	8.2
MINIMUM	0	7.5	--	.040	0.00	0.00	.1	150	5.8
MEAN	5	10.8	--	.089	1.7	.10	.2	177	7.2

SUMMARY AND DISCUSSION OF WATER QUALITY INDICES (WQI)

Using four water quality parameters, dissolved oxygen, fecal coliform, total dissolved solids, and ammonia-nitrogen, water quality indices have been developed by the IEPA staff for each of the WQSS. The values of WQI have been compared with the findings and experiences of the IEPA field engineers and biological staffs. Based upon these values of the WQI, the WQSS have been assigned a rating of Good or Balanced (A), Average or Unbalanced (B), Fair or Semi-polluted (C), and Poor or Polluted (D). A summary of the WQI ratings from the years 1971 through 1975 for the WQSS within this segment is presented in Table 2. A detailed discussion about the WQI is presented in the Appendix C.

These water quality indices should, however, be taken with caution because they are based on water quality as measured in terms of four parameters only. Therefore, a rating of good or balanced (A), and average or unbalanced (B) assigned to any WQSS does not mean that other water quality parameters may not be in violation of the water quality standards at that WQSS.

Table 2 WATER QUALITY INDICES

STATION	1971	1972	1973	1974	1975
ND-02	-	A	A	A	A

Summary and Discussion of Aquatic Life Survey Report:

USEPA national eutrophication survey in 1973 included Crab Orchard Lake which is within this segment.

Trophic Condition:

Survey data show that Crab Orchard Lake is eutrophic. It ranked eighth from the best in overall trophic quality when the 31 Illinois lakes sampled in 1973 were compared using a combination of six parameters (total phosphorus, median inorganic nitrogen, mean secchi disc transparency, mean chlorophyll A, minimum dissolved oxygen, and dissolved ortho phosphorus).

Survey limnologists reported a bluegreen algal bloom in progress in August and noted the occurrence of submergent and emergent aquatic macrophytes in the shoreline shallows near all three sampling stations.

Rate Limiting Nutrient:

A significant change in primary nutrients occurred in the assay sample between the time of collection and the beginning of the assay. The results are not representative of conditions in the lake at the time the sample was taken (05/08/73).

The lake data indicate phosphorus limitation in May but nitrogen limitation in August and October.

Point sources—The estimated phosphorus contribution of point sources amounted to 26.3% of the total load reaching the lake during the sampling year. The city of Marion was estimated to have contributed 20.3% and the other four point sources 6.0% of the total load.

The Crab Orchard National Wildlife Refuge provides a wintering area for a large segment of the Mississippi flyway Canada goose flock as well as many flyway ducks. It is estimated that ducks and geese contributed 7.9% of the total phosphorus load to Crab Orchard Lake during the sampling year.

The present phosphorus loading rate of 2.82 $g/m^2/yr$ is over seven times that proposed by Vollenweider (Vollenweider and Dillon, 1974) as a eutrophic rate. Even complete removal of phosphorus at the point sources would only reduce the loading rate to 2.07 $g/m^2/yr$ (still over five times the dangerous rate). However, Crab Orchard Lake is phosphorus limited part of the time, and it is likely that a high degree of phosphorus control at the point sources would result in persistent phosphorus limitation and a reduction in the incidence and severity of nuisance algal blooms, particularly if a significant portion of the phosphorus export of Crab Orchard Creek proves to be controllable.

Nonpoint sources--It is estimated that nonpoint sources accounted for 65.8% of the total phosphorus load reaching Crab Orchard Lake during the sampling year. However, Crab Orchard Creek had a very high phosphorus export rate of 221 $kg/km^2/yr$.

It is unlikely that the high rate resulted solely from underestimation of the phosphorus loads from the city of Marion and the Crab Orchard School; e.g., the phosphorus load for Marion would have to be nearly three times greater than the estimated load to lower the Crab Orchard Creek export rate to that of Wolf Creek (16 $kg/km^2/yr$). Therefore, it appears that either there are other point sources in the Crab Orchard Creek drainage or land use practices result in an unusually high phosphorus export. In either case, a need for further study of the drainage is indicated.

An extensive aquatic life survey of this segment was performed early in 1976 by the IEPA.

Summary and Discussion of 1975 Water Quality Problems and Violations

Parameters in violation of general use water quality standards, their values, and sampling dates at this water quality sampling station within this segment are presented in Table 3. Sources contributing or possibly contributing to the water quality violations shown are presented in Tables 4 and 5.

ND-02:

The parameter in violation of the water quality standards at the water quality sampling station ND-02 Crab Orchard Creek is pH only. The minimum recorded pH was 5.8. The point source discharges contributing to water quality sampling station ND-02 are as listed in Table 4.

It seems extremely difficult to explain the violation of water quality standards for pH because the water passing through this water quality sampling station is coming directly from Crab Orchard Lake. Normally, this water quality sampling station would be expected to reflect the water quality of Crab Orchard Lake and it is doubtful that the lake water has low pH.

Water Quality Violations That Will Remain After Point Source Controls Are Operational

The following water quality parameters are being violated; these violations will not be corrected by control of known point source discharges:

ND-02: total phosphorus

TABLE: 3 PARAMETERS IN VIOLATION OF WATER QUALITY STANDARDS (GENERAL USE) AT STATION ND-02 FOR 1975

PARAMETER AND LIMIT	PARAMETER VALUE	SAMPLE DATE
pH (6.5 to 9.0)	5.80	10-2
	6.20	6-30
total phosphorus (0.05 mg/l)*	0.06	12-17
	0.28	11-25
	0.06	9-8
	0.14	8-6
	0.10	6-30
	0.06	5-1
	0.06	4-3
	0.06	3-6
	0.09	2-13
	0.07	1-23

* The water quality standard violation is based on the fact that the water sampled is coming directly from Crab Orchard Lake.

TABLE: 4 POINT SOURCES CONTRIBUTING/POSSIBLY CONTRIBUTING TO WATER QUALITY VIOLATIONS

Water Quality Station: ND-02

Key: x contained in effluent x 1975 effluent violation	PARAMETERS BEING VIOLATED AT WATER QUALITY SAMPLING STATION							
Pollutant Source	pH	Total P						
Carterville STW		XND						
Crab Orchard Refuge STW		XND						
Devils Kitchen Lake Campground STW		XND						
Giant City Camp-ground STW		XND						
Greenbriar Trustee		ND						
Hickory Leaf Trailer Park		ND						
Hoc Briar Trailer Park		ND						
Hughes Crab Orchard E		ND						
Lakeview Farm Estates		ND						
Little Grassy Lake Campground		ND						
Logan John A. Jr. College		XND						
Williamson County Airport		ND						

ND means no data available except with regard to the WQSS designation.

Table: 5

Water Quality Sampling Stations ND-02

Pollutant Source	PARAMETERS BEING VIOLATED							
	pH	Total P						
Upstream WQSS	X	X						
Agricultural Runoff		X						
Silvicultural Runoff								
Mining (strip & sub-surface)	X							
Urban Stormwater Runoff		X						
Solid Waste Leachate								
Construction Site Runoff								
Septic Tank Leachate								

Big Muddy River Basin

Segment A-07

This segment extends over portions of Jackson and Union Counties and includes Crab Orchard Creek from Crab Orchard Lake to its confluence with the Big Muddy River. There is one Illinois Environmental Protection Agency (IEPA) water quality sampling station within this segment. This water quality sampling station is located on the Crab Orchard Creek and is given a sample type code (see Appendix E) of 1. An exact location of this water quality sampling station is given on Table 1.

There is no United States Geological Survey (USGS) stream gaging station within this segment.

There are forty-two waste treatment dischrges within this segment. Of these 42 discharges two are identified as industrial, two are identified as municipal, and the remaining thirty-eight are identified as miscellaneous.

There is one water treatment facility having a surface discharge within this segment located on Piles fork near Carbondale. Two landfills are located north of Carbondale. One, Koppers, is open while the other is closed for use.

Existing Water Quality

A summary of the existing (1975 calendar year) water quality in terms of maximum, minimum, and mean values for nine of the parameters at the 1 IEPA water quality sampling stations (WQSS) is presented in Table 1. The nine parameters are fecal coliform, dissolved oxygen, total suspended solids, total phosphorus, nitrate nitrogen, ammonia nitrogen, total iron, total dissolved solids, and pH. The units applicable to each parameter are shown in the tables. A discussion of the water quality summary tables is included in conjunction with "Summary and Discussion of 1975 Water Quality Problems and Violations".

Summary of 1975 Sampling Data

TABLE: 1
Station: ND-01: TWP Rd Br 4 mi NE of Carbondale

	Fecal Coli #/100 ml	DO mg/l	TSS mg/l	Total P mg/l	NO_3-N mg/l	NH_3-N mg/l	Iron Total mg/l	TDS mg/l	pH
MAXIMUM	14,000	14.3	--	.850	6.4	.50	2.6	300	8.3
MINIMUM	0	4.0	--	.100	.1	.07	1.1	170	6.2
MEAN	178	8.7	--	.372	1.6	.23	1.7	223	7.1

SUMMARY AND DISCUSSION OF WATER QUALITY INDICES (WQI)

Using four water quality parameters, dissolved oxygen, fecal coliform, total dissolved solids, and ammonia-nitrogen, water quality indices have been developed by the IEPA staff for each of the WQSS. The values of WQI have been compared with the findings and experiences of the IEPA field engineers and biological staffs. Based upon these values of the WQI, the WQSS have been assigned a rating of Good or Balanced (A), Average or Unbalanced (B), Fair or Semi-polluted (C), and Poor or Polluted (D). A summary of the WQI ratings from the years 1971 through 1975 for the WQSS within this segment is presented in Table 2. A detailed discussion about the WQI is presented in the Appendix C.

These water quality indices should, however, be taken with caution because they are based on water quality as measured in terms of four parameters only. Therefore, a rating of good or balanced (A), and average or unbalanced (B) assigned to any WQSS does not mean that other water quality parameters may not be in violation of the water quality standards at that WQSS.

Table 2 WATER QUALITY INDICES

STATION	1971	1972	1973	1974	1975
ND-01		B	B	A	A

Summary and Discussion of Aquatic Life Survey Reports

The IEPA biological staff conducted aquatic life surveys in this segment on Sycamore Creek in June 1971, on Piles Fork in March 1973, and throughout the entire Crab Orchard Creek sub-basin in early 1976.

A summary of the findings of the survey on Sycamore Creek follows:

Description of location	Biological Classification
Sycamore Creek - Carbondale: Makanda Township Section 13	Unbalanced
Sycamore Creek - Carbondale: East by West road between Makanda Township Section 12.	Unbalanced
Sycamore Creek - Carbondale: First Bridge upstream Confluence with Drury Creek Section 26 Carbondale Township Confluence 100 yards downstream	Polluted
Drury Creek - Carbondale-Section 35 Carbondale Township--Giant City Road	Balanced

On March 1 and 2, 1973, biological samples were collected at six stations on Piles Fork of Crab Orchard Creek at Carbondale, Illinois. The purpose was to determine the condition of stream environments downstream from the water and sewage plants for the city of Carbondale.

Station A-1: Piles Fork, approximately 100 yards upstream from the water treatment plant discharge, was balanced. The station is also upstream about 20 feet from the intersection of East Park and South Wall Streets.

Station C-1: Piles Fork, approximately 75 yards downstream from the water plant discharge, was balanced. The station is also about 20 feet upstream from East Grand Street. All the rocks and other submerged objects are covered with a red-orange or orange to brown colored material similar to that associated with mine waste. During the sampling period, an oil slick was passing through. The duration of passage was greater than four hours. Source of the oil was traced to the northern-most of three large sewers on the west side of Route #51 about one-half mile south of the Southern Illinois University power plant. Upstream headwaters did not contain oil.

Station C-2: Piles Fork, approximately 100 yards downstream from the water plant, was unbalanced. The station is about 50 yards downstream from East Grant Street bridge. A street drain or underground drain, west side of stream and north side of bridge, was discharging a flow similar in color to the color of the rocks, orange-red or brown.

Station C-3: Piles Fork, approximately one and one-quarter mile downstream from the water plant discharge, was polluted. Black sludge-like deposits were several inches deep, floating debris and oil were present on the surface. The Carbondale sewage plant discharge is about 100 yards downstream.

Station C-4: Piles Fork, approximately 200 yards downstream from the Carbonale North East sewage treatment plant discharge, was polluted. Colonies of worms in the stream were visible from the shore. Sludge-like deposits were several feet deep.

Station C-5: Piles Fork, approximately one mile downstream from the sewage plant discharge, was semi-polluted. There were no other access points between this station and confluence with Crab Orchard Creek.

Note: The above named sewage treatment plant is no longer in operation.

Summary and Discussion of 1976 Water Quality Problems and Violations

Parameters in violation of general use water quality standards, their values and sampling dates at the water quality sampling stations within this segment are presented in Table 3. Sources contributing or possibly contributing to the water quality violations shown are presented in Tables 4 and 5.

ND-01:

The parameters in violation of the water quality standards at the water quality sampling station ND-01 (Crab Orchard Creek) are fecal coliform, field dissolved oxygen, total iron, pH, silver and manganese. The maximum recorded values of fecal coliform, total iron, silver and manganese were 14,000#/100 ml, 1.6 mg/l, 0.04 mg/l and 1.80 mg/l, respectively. The minimum recorded field dissolved oxygen and pH were 4.0 mg/l and 6.2, respectively.

The point source discharges contributing to the fecal coliform violations are as listed in Table 4. All the point sources discharging high fecal coliform in their effluents have chlorination facilities. It, therefore, appears that the treatment facilities are not properly maintained and operated. With better maintenance and operation of the point source discharges, the fecal coliform problem would be reduced unless major contribution of fecal coliform in the stream is from scattered livestock operations in the area.

The total iron, pH, silver and manganese violations are probably attributable to landfills and mine related activities: gob roads, gob piles, and abandoned mines and agricultural runoff.

Low field dissolved oxygen is probably due to high ammonia nitrogen and biological oxygen demand contained in the wastes emanating from the point source discharges listed in Table 4. Chemical conversions of ferrous to ferric iron, no doubt contributes somewhat to the depressed dissolved oxygen.

Although all the point sources discharging high ammonia nitrogen seemed to have the kinds of treatment processes needed to reduce ammonia nitrogen, it is likely that all are not properly operated and maintained or are overloaded. The 7-day 10-year low flow at all locations is zero and consequently, the permit conditions for biological oxygen demand (4.0 mg/l) and total suspended solids (5.0 mg/l) are stringent enough.

It, therefore, appears that if strict BOD and ammonia conditions are imposed and complied with the dissolved oxygen problem at this water quality sampling station would be reduced if not eliminated.

Water Quality Violations That Will Remain After Point Source Controls Are Operational

The following water quality parameters are being violated; these violations will not be corrected by control of known point source discharges:

ND-01: total iron, pH, silver, manganese

In addition to those parameters above, the following parameter violations probably will not be corrected by control of known point source discharges:

ND-01: fecal coliform, dissolved oxygen

TABLE: 3 PARAMETERS IN VIOLATION OF WATER QUALITY STANDARDS (GENERAL USE) AT STATION ND-01 FOR 1975

PARAMETER AND LIMIT	PARAMETER VALUE	SAMPLE DATE
fecal coliform (200/100 ml)	520	12-17
	3,400	10-1
	700	9-8
	14,000	8-6
	400	6-30
	250	5-1
total iron (1.0 mg/l)	2.1	12-17
	2.6	9-8
	1.2	6-11
	1.1	3-6
pH (6.5 to 9.0)	6.2	9-8
silver (.005 mg/l)	.040	9-8
dissolved oxygen (5.0 mg/l)	4.0	6-11
manganese (1.0 mg/l)	1.80	6-11

TABLE: 4 POINT SOURCES CONTRIBUTING/POSSIBLY CONTRIBUTING TO WATER QUALITY VIOLATIONS

Water Quality Station: ND-01

Key: x contained in effluent x 1975 effluent violation	PARAMETERS BEING VIOLATED AT WATER QUALITY SAMPLING STATION							
Pollutant Source	FC	Fe	pH	Ag	DO	Mn	NH_3-N	
Camelot MHP					X			
Carbondale SE Cl_2	X				X			
Chucks Country Est.					X			
Country Village Apts.	X				X			
Crab Orchard Lake MH Cl_2	X				X			
Ill. Ctl. Gulf RR. Carbondale					X			
San Pat Apts.					X			
Sav-Mart. Dept Store Cl_2	X				X			
Seventh Day Adventist Church					X			
Koppers Co. Inc.								
Lincoln Village Cl_2	X				X			
Mt. Pleasant Tr. Pk. Cl_2	X				X			
Robinson Tr. Pk.					X			
Shamrock Apt. Cl_2	X				X			

TABLE: 4 (cont'd.) POINT SOURCES CONTRIBUTING/POSSIBLY CONTRIBUTING TO WATER QUALITY VIOLATIONS

Water Quality Station: ND-01

Key: x contained in effluent x 1975 effluent violation	PARAMETERS BEING VIOLATED AT WATER QUALITY SAMPLING STATION							
Pollutant Source	FC	Fe	pH	Ag	DO	Mn	NH_3-N	
Bush MH. #1 Cl_2	X				X			
Bush MH. #2					X			
Cedar Lane Tr. Pk.					X			
Chateau Apts.-Hilton Cl_2	X				X			
Frost Tr. Court Cl_2	X				X			
Lakeland Hills Subd.	X				X			
Malibu Village Inc. Cl_2	X				X			
Pleasant Hill Tr. Pk. Cl_2	X				X			
Pleasant Valley Tr. Pk.	X				X			
Raccoon Valley Tr. Pk.					X			
Roxane Tr. Court Cl_2	X				X			
Southern MHP Cl_2	X				X			
Town-N-Country Tr. Pk. Cl_2	X				X			
Unity Pt. School 140					X			

TABLE: 4 (cont'd.) POINT SOURCES CONTRIBUTING/POSSIBLY CONTRIBUTING TO WATER QUALITY VIOLATIONS

Water Quality Station: ND-01

Key: x contained in effluent x 1975 effluent violation	PARAMETERS BEING VIOLATED AT WATER QUALITY SAMPLING STATION							
Pollutant Source	FC	Fe	pH	Ag	DO	Mn	NH_3-N	
University Hts. M.H.					X			
Warrens M.H. Cl_2	X				X			
Wildwood M.H.					X			
Giant City Sch. 130					X			
Giant City Lodge Cl_2	X				X			
SIU Little Grassy Lake Camp.					X			

SOURCES CONTRIBUTING/POSSIBLY CONTRIBUTING
TO WATER QUALITY VIOLATIONS

Table: 5
Water Quality Sampling Stations ND-01

Pollutant Source	PARAMETERS BEING VIOLATED							
	F.C.	Fe	pH	Ag	DO	Mn		
Upstream WQSS								
Agricultural Runoff	X	X			X			
Silvicultural Runoff								
Mining (strip & sub-surface)		X	X	X		X		
Urban Stormwater Runoff	X	X		X	X			
Solid Waste Leachate								
Construction Site Runoff		X						
Septic Tank Leachate								

Big Muddy River Basin

Segment A-08

This segment is contained in Jackson County and includes the whole of Lake Kinkaid and its watershed. There is one Illinois Environmental Protection Agency (IEPA) water quality sampling station within this segment. This water quality sampling station NB-01 is located on Kinkaid Creek and is given a sample type code (see Appendix E) 1. An exact location of this water quality sampling station is given on Table 1.

There is no United States Geological Survey (USGS) stream gaging station within this segment. Also, there is no known point source discharges within this segment.

There is one water treatment facility having a surface discharge within this segment which provides water for an intercity water system.

Existing Water Quality

A summary of the existing (1975 calendar year) water quality in terms of maximum, minimum, and mean values for nine of the parameters at the 1 IEPA water quality sampling station (WQSS) is presented in Table 1. The nine parameters are fecal coliform, dissolved oxygen, total suspended solids, total phosphorus, nitrate nitrogen, ammonia nitrogen, total iron, total dissolved solids, and pH. The units applicable to each parameter are shown in the tables. A discussion of the water quality summary tables is included in conjunction with "Summary and Discussion of 1975 Water Quality Problems and Violations".

Summary of 1975 Sampling Data

TABLE: 1
Station: NB-01: N of Rt 3 at Dam

	Fecal Coli #/100 ml	DO mg/l	TSS mg/l	Total P mg/l	NO_3-N mg/l	NH_3-N mg/l	Iron Total mg/l	TDS mg/l	pH
MAXIMUM	120	14.3	--	.220	6.3	.25	.7	190	8.2
MINIMUM	0	8.0	--	.000	.0	.00	.2	95	6.7
MEAN	18	10.7	--	.059	.7	.08	.4	123	7.5

SUMMARY AND DISCUSSION OF WATER QUALITY INDICES (WQI)

Using four water quality parameters, dissolved oxygen, fecal coliform, total dissolved solids, and ammonia-nitrogen, water quality indices have been developed by the IEPA staff for each of the WQSS. The values of WQI have been compared with the findings and experiences of the IEPA field engineers and biological staffs. Based upon these values of the WQI, the WQSS have been assigned a rating of Good or Balanced (A), Average or Unbalanced (B), Fair or Semi-polluted (C), and Poor or Polluted (D). A summary of the WQI ratings from the years 1971 through 1975 for the WQSS within this segment is presented in Table 2. A detailed discussion about the WQI is presented in the Appendix C.

These water quality indices should, however, be taken with caution because they are based on water quality as measured in terms of four parameters only. Therefore, a rating of good or balanced (A), and average or unbalanced (B) assigned to any WQSS does not mean that other water quality parameters may not be in violation of the water quality standards at that WQSS.

Table 2 WATER QUALITY INDICES

STATION	1971	1972	1973	1974	1975
NB-01				A	A

Summary and Discussion of 1975 Water Quality Problems and Violations

Parameter in violation of the water quality standard, its values and sampling dates, at the water quality sampling station within this segment is presented in Table 3. Sources contributing or possibly contributing to the water quality violations shown are presented in Table 4.

NB-01:

The parameter in violation of the water quality standard, at the water quality sampling station NB-01 (Kinkaid Creek) is total phosphorus. The maximum recorded value of total phosphorus was 0.22 mg/l. The source of phosphorus contribution to this water quality sampling station NB-01 is attributed to agricultural run off and other nonpoint sources.

Water Quality Violations That Will Remain After Point Source Controls Are Operational

The following water quality parameters are being violated; these violations will not be corrected by control of known point source discharges:

NB-01 Total phosphorus

TABLE: 3 PARAMETERS IN VIOLATION OF WATER QUALITY STANDARDS FOR 1975 AT STATION NB-01

PARAMETER AND LIMIT	PARAMETER VALUE	SAMPLE DATE
total phosphorus (0.05 mg/1)	0.1	8-5
	0.08	5-1
	0.22	2-25

Table: 4
Water Quality Sampling Stations NB-01

Pollutant Source	PARAMETERS BEING VIOLATED							
	Total P							
Upstream WQSS								
Agricultural Runoff	X							
Silvicultural Runoff	X							
Mining (strip & sub-surface)								
Urban Stormwater Runoff								
Solid Waste Leachate								
Construction Site Runoff								
Septic Tank Leachate								

Big Muddy River Basin

Segment A-09

This segment extends over portions of Jackson and Union Counties and includes the Cedar Creek watershed to its confluence with the Big Muddy River. There is no Illinois Environmental Protection Agency (IEPA) water quality sampling station within this segment.

There is no United States Geological Survey (USGS) stream gaging station within this segment.

There are four miscellaneous type point source discharges within this segment.

There is one water treatment facility having a surface discharge within this segment located near Alto Pass, Illinois on Cedar Creek.

Existing Water Quality

There is no water quality sampling station in this segment.

Aquatic Life Surveys

No Aquatic life surveys have been performed on this segment. However, considerable studies have been made or are on going to confirm potential excessive levels of mercury, DDT and dieldrin in the flesh of fish of Cedar Lake.

Big Muddy River Basin

Segment B-01

This is the uppermost segment on the main stem of the Big Muddy River Basin which extends over portions of Franklin, Jefferson, and Marion Counties and includes the whole of Rend Lake as well as its tributaries. There are three Illinois Environmental Protection Agency (IEPA) water quality sampling stations within this segment. One water quality sampling station is located on the main stem of the Big Muddy River and is given a sample type code 1 (see Appendix E) whereas the other two water quality sampling stations are located one each on Casey Fork and on Rayse Creek and are given a sample type code 1 and 4. An exact location of each water quality sampling station is given on Tables 1-3.

There are two United States Geological Survey stream gaging stations within this segment. One United States Geological Survey stream gaging station, number 05595800, is located on Sevenmile Creek near Mt. Vernon and the other station, number 05595950 is located on Big Muddy River near Benton, Illinois.

There are seventeen point source discharges within this segment. Of these seventeen discharges, two are identified as industrial, four are identified as municipal, and the remaining eleven are identified as miscellaneous.

There are two water treatment facilities having surface discharges within this segment. One is in Mt. Vernon and another is near the lower eastern edge of Rend Lake. One permitted swine feedlot is on the northeast side of Waltonville. Two landfills, Mt. Vernon/Muni #2 and Mt. Vernon/Muni #3, are located south of Woodlawn.

Also, four permitted coal mines are within this segment, of these four, two belong to Freeman United Coal Company, one belongs to Inland Steel Company, and one belongs to Old Ben. All these permitted mines are south of Waltonville and west of Rend Lake.

Existing Water Quality

A summary of the existing (1975 calendar year) water quality in terms of maximum, minimum, and mean values for nine of the parameters at the 3 IEPA water quality sampling stations (WQSS) is presented in Tables 1-3. The nine parameters are fecal coliform, dissolved oxygen, total suspended solids, total phosphorus, nitrate nitrogen, ammonia nitrogen, total iron, total dissolved solids, and pH. The units applicable to each parameter are shown in the tables. A discussion of the water quality summary tables is included in conjunction with "Summary and Discussion of 1975 Water Quality Problems and Violations".

Summary of 1975 Sampling Data

TABLE: 1
Station: N-08: Rt 15 Br 3 Mi W of Mt. Vernon

	Fecal Coli #/100 ml	DO mg/l	TSS mg/l	Total P mg/l	NO_3-N mg/l	NH_3-N mg/l	Iron Total mg/l	TDS mg/l	pH
MAXIMUM	13,000	13.7	--	.500	.9	.90	.44	870	8.1
MINIMUM	10	3.2	--	.030	.0	.00	.6	210	6.8
MEAN	138	7.6	--	.172	.3	.22	1.6	525	7.3

TABLE: 2
Station: NK-01: TWP Rd Br 2 Mi N of Waltonville

	Fecal Coli #/100 ml	DO mg/l	TSS mg/l	Total P mg/l	NO_3-N mg/l	NH_3-N mg/l	Iron Total mg/l	TDS mg/l	pH
MAXIMUM	8,500	13.9	--	.730	.9	.50	1.2	780	7.8
MINIMUM	50	2.6	--	.060	.0	.00	.7	180	6.8
MEAN	544	7.7	--	.209	.4	.17	.9	452	7.3

TABLE: 3
Station: NJ-07: Rt 37 Br 3 Mi S of Mt. Vernon

	Fecal Coli #/100 ml	DO mg/l	TSS mg/l	Total P mg/l	NO_3-N mg/l	NH_3-N mg/l	Iron Total mg/l	TDS mg/l	pH
MAXIMUM	6,500	13.4	--	7.000	2.0	6.40	4.2	470	8.0
MINIMUM	0	4.1	--	.230	.4	.00	.8	230	6.6
MEAN	299	8.1	--	2.248	1.0	2.04	2.0	357	7.2

SUMMARY AND DISCUSSION OF WATER QUALITY INDICES (WQI)

Using four water quality parameters, dissolved oxygen, fecal coliform, total dissolved solids, and ammonia-nitrogen, water quality indices have been developed by the IEPA staff for each of the WQSS. The values of WQI have been compared with the findings and experiences of the IEPA field engineers and biological staffs. Based upon these values of the WQI, the WQSS have been assigned a rating of Good or Balanced (A), Average or Unbalanced (B), Fair or Semi-polluted (C), and Poor or Polluted (D). A summary of the WQI ratings from the years 1971 through 1975 for the WQSS within this segment is presented in Table4 . A detailed discussion about the WQI is presented in the Appendix C.

These water quality indices should, however, be taken with caution because they are based on water quality as measured in terms of four parameters only. Therefore, a rating of good or balanced (A), and average or unbalanced (B) assigned to any WQSS does not mean that other water quality parameters may not be in violation of the water quality standards at that WQSS.

Table 4 WATER QUALITY INDICES

STATION	1971	1972	1973	1974	1975
N-08		B	A	A	A
NJ-07		C	B	B	B
NK-01		A	A	B	A

It appears from the Water Quality Index ratings that since 1972 the quality of water in the main stem of Big Muddy River at the location of water quality sampling station N-08 has improved from unbalanced to balanced. However, the quality of water in Rayse Creek at the location of water quality sampling station NK-01 deteriorated in 1974 to unbalanced from balanced in 1973. The water quality at this location in 1975 improved to balanced. The quality of water at water quality sampling station NJ-07 improved from semi-polluted in 1972 to unbalanced in 1973 onward.

Summary and Discussion of Aquatic Life Survey Reports

USEPA national eutrophication survey in 1973 included Rend Lake and Old Ben mine reservoir which are within this segment.

Rend Lake

Survey data indicate that Rend Lake is eutrophic. It ranked fourth from the best in overall trophic quality when the 31 Illinois lakes sampled in 1973 were compared using a combination of six parameters (Total phosphorus, median inorganic nitrogen, mean secchi disc transparency, mean chlorophyll A, minimum dissolved oxygen, dissolved Ortho phosphorus).

Rate-Limiting Nutrient:

The algal assay results indicate that Rend Lake was phosphorus limited at the time the assay sample was collected (05/08/73). The lake data indicate phosphorus limitation at the other sampling times as well.

Nutrient Controllability:

Point sources—The phosphorus contribution of known point sources amounted to 20.3% of the total input to Rend Lake during the sampling year. However, the non-point source exports of the Big Muddy River and, particularly, Casey Fork were substantially higher than the other streams in the drainage basin. It is likely that other point sources contributed significantly to the phosphorus loads, or the contributions from known point sources contributing to the overall phosphorus load include Mt. Vernon (19.9%) and Dix (0.3%). Four additional sewage treatment facilities collectively contributed 0.2 of the total load reaching Rend Lake.

The present phosphorus loading rate of 0.97 $g/m^2/yr$ is over 2.5 times that proposed by Vollenweider (Vollenweider and Dillon, 1974) as a eutrophic rate. A 100% reduction of the phosphorus from the known point sources would reduce the overall loading rate to about twice the eutrophic rate; however, because the lake is phosphorus limited, all phosphorus inputs should be minimized to the greatest practicable extent to slow the eutrophication of Rend Lake.

Nonpoint sources--Nearly 80% of the total annual phosphorus input to Rend Lake can be attributed to nonpoint sources. After accounting for the known point sources, the Big Muddy River contributed 32.3% and Casey Fork, 31.8%. The three remaining sampled tributaries collectively contributed 2.4% of the total. The mean annual phosphorus contribution from ungaged tributaries was estimated to have been 11.3% of the total load. As discussed above, part of the mean annual nonpoint phosphorus exports of the Big Muddy River (45 kg/km^2) and Casey Fork (99 kg/km^2) probably should be attributed to additional point sources in the metropolitan areas rather than to nonpoint sources.

Old Ben Mine Reservoir

Old Ben Mine Reservoir was included in the National Eutrophication Survey as a water body of interest to the Illinois Environmental Protection Agency. Tributaries and nutrient sources were not sampled, and this report primarily relates to the reservoir sampling data.

Survey data indicate that Old Ben Mine Reservoir is eutrophic. It ranked 22nd from the best in overall trophic quality when the 31 Illinois lakes sampled in 1973 were compared using a combination of six lake parameters. Depression of dissolved oxygen occurred at 1.5 meters in depth in August, 1973.

The survey limnologists noted floating and emergent macrophytes during all three visits.

Rate-Limiting Nutrient:

The algal assay results indicate that the reservoir was nitrogen limited at the time the sample was collected (05/11/73). The reservoir data indicate nitrogen limitation at the other sampling times as well.

Nutrient Controllability:

Point sources--the municipal treatment plant at Sesser was the only known phosphorus source impacting the reservoir during the sampling year. A total of 1,925 kg phosphorus was estimated to have been contributed by this source and resulted in a point source loading rate of 4.48 $g/m^2/yr$.

Based on the reservoir data and the data of other Illinois lakes studied, this reservoir exhibits symptoms typical of a highly eutrophic lake and should show improvement if phosphorus control is instituted at Sesser.

The ammonia nitrogen could directly be attributed to effluent discharges from such point sources as Mt. Vernon, Dodds Community Consolidated School, Field Community Consolidated School, Dix Sewage Lagoon, and Country Aire MHP (Elbin Trailer Park) at Mt. Vernon. The maximum and mean recorded values of ammonia nitrogen in effluents at the above mentioned facilities are listed below.

	Effluent Ammonia Nitrogen	
Facility Name	Maximum (mg/l)	Mean (mg/l)
Mt. Vernon STW	16.00	5.84
Dodds Comm. Consol Sch.	92.00	69.00
Field Comm. Consol Sch	49.00	14.55
Dix Sewage Lagoon	8.60	3.50
Country Aire MHP-Mt. Vernon (Elbin Tr. Pk)	13.00	3.92

These facilities have the kinds of treatment processes needed to at least partially reduce ammonia nitrogen. However, it is likely that all are not adequately operated and maintained. The 7-day, 10-year low flow at all locations is zero and consequently, the permit conditions for biological oxygen demand (4 mg/l) and TSS (5 mg/l) are stringent enough. However, the permit conditions should impose strict requirements for ammonia nitrogen removal. It appears that ammonia nitrogen problem may persist unless a stringent ammonia nitrogen requirement, treatment to 1.5 mg/l ammonia nitrogen, is imposed on effluent discharges of the above mentioned facilities.

Low field dissolved oxygen could be a direct result of high ammonia nitrogen and carbonaceous oxygen demand in the stream. It is likely that field dissolved oxygen values would improve if ammonia nitrogen is reduced.

Total iron and copper violations are attributed to coal mine activities and agricultural runoff.

Boron violations can be attributed to the two industries, General Tire and Rubber and Precision Products. The effluents from none of these facilities have been analyzed for boron during 1975. As a result, it is difficult to say with any certainty that boron violations will be reduced if these two industries remove boron from their effluents.

The total phosphorus violations occur year round and are both point and non-point in origin. Additional, more detailed discussion on this matter is included under the Aquatic Life Survey's Section of this segment analysis.

Summary and Discussion of 1975 Water Quality Problems and Violations

Parameters in violations of general use water quality standards, their values, and sampling dates at the three water quality sampling stations within this segment are presented in Tables 5-7. Sources contributing or possibly contributing to the water quality violations shown are presented in Tables 8-13.

N-08:

The parameters in violation of the water quality standards at the water quality sampling station N-08 (Big Muddy River) are fecal coliform, field dissolved oxygen, manganese, total phosphorus, and total iron. The maximum recorded values for fecal coliform, manganese, and total iron were 13000#/100 ml., 1.97 mg/l, and 4.4 mg/l, respectively. The minimum recorded field dissolved oxygen was 3.21 mg/l. The point source discharges that may be contributing toward the above mentioned water quality violations are listed in Table 8. Two of them are identified as miscellaneous and one as municipal type. However, none of these discharges were sampled during 1975.

Fecal coliform violations may be attributed to the livestock operations scattered in the area, whereas manganese and total iron may be attributed to mine related activities: gob roads, gob piles and abandoned mines.

Low field dissolved oxygen may be due to high oxygen demanding wastes emanating from the nonpoint agricultural sources and perhaps the smaller discharges in the segment. Chemical conversion of ferrous to ferric iron may be contributing to the depressed oxygen levels. Another factor causing low field dissolved oxygen could be the flow conditions (velocity and depth) of the stream, especially when the 7-day 10-year low flow values are zero, unfavorable to reaeration of the stream.

The total phosphorus violation occurs essentially year round and is attributed to both non-point (major source) and point sources.

NJ-07

The parameters in violation of the water quality standards at the water quality sampling station NJ-07 (Casey Fork) are fecal coliform, ammonia nitrogen, total phosphorus, field dissolved oxygen, boron, and copper. The point source discharge contributing to these water quality violations are as in Table 10. If treatment plants having chlorination facilities properly disinfect their effluents before discharging into the stream and others install disinfection facilities, the fecal coliform violations at this location could be reduced.

NK-01

The parameters in violation of the water quality standards at water quality sampling station NK-01 (Rayse Creek) are fecal coliform, field dissolved oxygen, total phosphorus, chloride, total iron, and manganese. There are two point source discharges, Woodlawn Grade and High Schools (Table 12), and two landfills which are contributing to this water quality sampling station.

A high fecal coliform value partially results from the high fecal coliform counts in the effluents from Woodlawn Grade and High Schools. These schools do not have chlorination and it is quite likely that fecal coliform violations would be reduced if chlorination is added to the treatment facilities of these schools.

Woodlawn Grade School effluent discharge contains high ammonia nitrogen and this may be the reason of low field dissolved oxygen. Also, high water temperature during the months of low field dissolved oxygen may have increased the activities of oxygen demanding organisms in the stream to cause low dissolved oxygen. Furthermore, the stream flow conditions (velocity and depth) could have been unfavorable to stream natural reaeration. It appears that this low dissolved oxygen during the months of May, July, September, October, and November would persist even if the discharge of ammonia nitrogen from Woodlawn Grade School is reduced.

Other parameters in violation such as chloride, total iron, and manganese are attributed to mine related activities: gob roads, abandoned mines, and, gob piles as well as oil field activities.

Water Quality Violations That Will Remain After Point Source Controls Are Operational

The following water quality parameters are being violated; these violations will not be corrected by control of known point source discharges:

N-08	manganese, total iron, total phosphorus
NJ-07	total iron, boron, copper, total phosphorus
NK-01	copper, total iron, manganese, total phosphorus, chlorides

In addition to those parameters above, the following parameter violations probably will not be corrected by control of known point source discharges:

N-08	fecal coliform, dissolved oxygen
NJ-07	fecal coliform, dissolved oxygen, ammonia nitrogen
NK-01	fecal coliform, dissolved oxygen

TABLE: 5 PARAMETERS IN VIOLATION OF WATER QUALITY STANDARDS (GENERAL USE) AT STATION N-08 FOR 1975

PARAMETER AND LIMIT	PARAMETER VALUE	SAMPLE DATE
fecal coliform (200/100ml)	13,000	12-3
	12,000	7-7
	4,200	5-13
field dissolved oxygen	3.21	11-20
(5.0 mg/l)	3.21	10-9
	3.21	9-10
	4.51	8-7
	4.61	7-7
manganese (1.0 mg/l)	1.97	11-20
total iron (1.0 mg/l)	4.4	5-13
total phosphorus (0.05 mg/l)	0.07	2-13
	0.08	3-17
	0.08	4-14
	0.200	5-13
	0.1	6-18
	0.420	7-17
	0.140	8-7
	0.200	9-10
	0.110	10-9
	0.130	11-20
	0.500	12-3
	0.230	3-17

TABLE: 5 PARAMETERS IN VIOLATION OF WATER QUALITY STANDARDS (GENERAL USE) FOR 1975 AT STATION N-08

(cont.)

PARAMETER AND LIMIT	PARAMETER VALUE	SAMPLE DATE
Total phosphorus	0.610	4-14
	0.400	5-13
	1.950	6-18
	1.050	7-7
	3.600	8-7
	4.400	9-10
	5.500	10-9
	7.000	11-3
	1.300	12-3

TABLE: 6 PARAMETERS IN VIOLATION OF WATER QUALITY STANDARDS (GENERAL USE) AT STATION NJ-07 FOR 1975

PARAMETER AND LIMIT	PARAMETER VALUE	SAMPLE DATE
fecal coliform (200/100 ml)	3,700	12-3
	300	11-3
	6,500	7-7
	560	6-18
	3,100	5-13
	2,300	3-17
	230	2-13
ammonia nitrogen (1.5 mg/l)	2.0	12-3
	6.4	11-3
	4.3	10-9
	3.0	9-10
	4.8	8-7
total iron (1.0 mg/l)	2.0	12-3
	4.2	7-7
	1.4	6-18
	2.0	3-17
field dissolved oxygen	4.71	11-3
(5.0 mg/l)	4.6	9-10
	4.11	8-7
	4.21	7-7
boron (1.0 mg/l)	1.8	9-10
copper (0.02 mg/l)	0.08	9-10
total phosphorus	0.49	1-27
	0.45	2-13

TABLE: 7 PARAMETERS IN VIOLATION OF WATER QUALITY STANDARDS (GENERAL USE) AT STATION NK-01 FOR 1975

PARAMETER AND LIMIT	PARAMETER VALUE	SAMPLE DATE
fecal coliform (200/100 ml)	5,600	12-3
	600	10-9
	2,300	8-7
	4,800	7-7
	470	6-18
	8,500	3-13
	280	3-17
	380	2-5
field dissolved oxygen	3.21	11-20
(5.0 mg/l)	2.61	10-10
	4.91	9-10
	4.21	7-7
chloride (500 mg/l)	650	10-9
total iron (1.0 mg/l)	1.2	10-9
manganese (1.0 mg/l)	1.67	10-9
total phosphorus (0.05 mg/l)	0.08	1-27
	0.170	2-13
	0.08	3-17
	0.06	4-
	0.3	5-13
	0.08	6-18
	0.24	7-7
	0.12	8-7

TABLE: 7 PARAMETERS IN VIOLATION OF WATER QUALITY STANDARDS (GENERAL USE) AT STATION NK-01 FOR 1975

(CONT.)

PARAMETER AND LIMIT	PARAMETER VALUE	SAMPLE DATE
Total phosphorus	0.12	9-10
	0.1	10-9
	0.73	11-3
	0.40	12-3

TABLE: 8 POINT SOURCES CONTRIBUTING/POSSIBLY CONTRIBUTING TO WATER QUALITY VIOLATIONS

Water Quality Station: N-08

Key: x contained in effluent x 1975 effluent violation	PARAMETERS BEING VIOLATED AT WATER QUALITY SAMPLING STATION							
Pollutant Source	F.C.	Field DO	Mn	Total Fe	Total P			
Grant Prairie School								
Woodlawn STW								
Archway Tr. Pk. Mt. Vernon Cl_2								

Table: 9
Water Quality Sampling Stations N-08

Pollutant Source	PARAMETERS BEING VIOLATED							
	F.C.	Field DO	Mn	Total Fe	Total P			
Upstream WQSS								
Agricultural Runoff	X	X			X			
Silvicultural Runoff								
Mining (strip & sub-surface)		X	X	X				
Urban Stormwater Runoff								
Solid Waste Leachate								
Construction Site Runoff								
Septic Tank Leachate	X	X						

TABLE: 10 POINT SOURCES CONTRIBUTING/POSSIBLY CONTRIBUTING TO WATER QUALITY VIOLATIONS

Water Quality Station: NJ-07

Key: x contained in effluent x 1975 effluent violation	PARAMETERS BEING VIOLATED AT WATER QUALITY SAMPLING STATION							
Pollutant Source	F.C.	NH3-N	Fe	Field DO	B	Cu	Total P	
Mt. Vernon STW Cl2	X	X	X		X			
Field Comm. Consol. School	X	X						
Dodds Comm. Consol. School	X	X						
Dix Sewage Lagoon Cl2	X	X						
Precision Products								
Country Aire MHP (Elhin Tr. Pk.) Mt. Vernon Cl2	X	X						
General Tire & Rubber	X	X						

Table: 11
Water Quality Sampling Stations NJ-07

Pollutant Source	PARAMETERS BEING VIOLATED							
	F.C.	NH3-N	Total Fe	Field DO	B	Cu	Total P	
Upstream WQSS								
Agricultural Runoff	X	X		X			X	
Silvicultural Runoff								
Mining (strip & sub-surface)			X	X	X	X		
Urban Stormwater Runoff								
Solid Waste Leachate								
Construction Site Runoff								
Septic Tank Leachate	X	X		X				

TABLE: 12 POINT SOURCES CONTRIBUTING/POSSIBLY CONTRIBUTING TO WATER QUALITY VIOLATIONS

Water Quality Station: NK-01

Key: x contained in effluent x̲ 1975 effluent violation	PARAMETERS BEING VIOLATED AT WATER QUALITY SAMPLING STATION							
Pollutant Source	F.C.	Field DO	Chloride	Fe	Mn	Total P	NH3-N	
Woodlawn Grade Sch.	X̲							
Woodlawn High Sch.	X̲							

Table: 13
Water Quality Sampling Stations NK-01

Pollutant Source	PARAMETERS BEING VIOLATED							
	F.C.	Field DO	Chloride	Fe	Mn	Total P		
Upstream WQSS								
Agricultural Runoff	X	X				X		
Silvicultural Runoff								
Mining (strip & sub-surface)		X	X	X	X			
Urban Stormwater Runoff								
Solid Waste Leachate								
Construction Site Runoff								
Septic Tank Leachate	X	X						
Landfills			X	X	X			
Oil Fields			X					

Big Muddy River Basin

Segment B-02

This is the middle segment on the main stem of the Big Muddy River Basin which extends over portions of Franklin, Jackson, and Williamson Counties and includes the Rend Lake discharge to its confluence with Little Muddy River. There are three Illinois Environmental Protection Agency (IEPA) water quality sampling stations within this segment. Two water quality sampling stations are located on the main stem of the Big Muddy River of which one, N-06, is given a sample type code (see Appendix E) 1 and 4 and the other, N-04, is given a sample type Code 1. The third water quality sampling station NF-01 is located on Hurricane Creek and is given a sample type code 1. An exact location of each water quality sampling station is given on Tables 1-3.

There is one United States Geological Survey (USGS) stream gaging station, number 055970000, located on the Big Muddy River at Plumfield within this segment.

There are nineteen point source discharges within this segment. Of these nineteen discharges, one is identified as industrial, twelve are identified as municipal, and the remaining six are identified as miscellaneous. Also, four segments B-01, A-01, A-02, and A-03, drain into this segment B-02.

There is one water treatment facility within this segment located south of Royalton. There are three landfills, two of which are operating and one is closed for use, in the segment. The Benton/Wiggs is located west of Benton City Municipal Airport and the Carterville/Allen is located southeast of Cambria. The closed landfill site is also located southeast of Cambria.

Three permitted mines are within this segment. One belonging to Cold Water Coal Co. is located east of Energy, another belonging to Old Ben Coal Co. is located northwest of the Benton Municipal Airport and the third belonging to Consolidation Coal Co. Inc. is located southwest of Hurst.

Existing Water Quality

A summary of the existing (1975 calendar year) water quality in terms of maximum, minimum, and mean values for nine of the parameters at the 3 IEPA water quality sampling stations (WQSS) is presented in Tables 1-3. The nine parameters are fecal coliform, dissolved oxygen, total suspended solids, total phosphorus, nitrate nitrogen, ammonia nitrogen, total iron, total dissolved solids, and pH. The units applicable to each parameter are shown in the tables. A discussion of the water quality summary tables is included in conjunction with "Summary and Discussion of 1975 Water Quality Problems and Violations".

Summary of 1975 Sampling Data

TABLE: 1
Station: N-06: Rt 14 Br 3 Mi W of Benton

	Fecal Coli #/100 ml	DO mg/l	TSS mg/l	Total P mg/l	NO_3-N mg/l	NH_3-N mg/l	Iron Total mg/l	TDS mg/l	pH
MAXIMUM	23000	13.9	-	.570	5.4	.25	.9	680	7.8
MINIMUM	30	3.7	-	.060	.1	.05	.2	180	6.5
MEAN	287	8.9	-	.177	1.0	.14	.6	246	7.1

TABLE: 2
Station: N-04: Rt 148 Br 4 Mi N NW of Herrin

	Fecal Coli #/100 ml	DO mg/l	TSS mg/l	Total P mg/l	NO_3-N mg/l	NH_3-N mg/l	Iron Total mg/l	TDS mg/l	pH
MAXIMUM	1400	13.5	-	.440	7.5	.40	2.9	280	7.5
MINIMUM	10	5.7	-	.050	.2	.00	.7	130	6.1
MEAN	148	8.9	-	.167	1.0	.13	1.7	212	7.0

TABLE: 3
Station: NF-01: Twp Rd Br 4 Mi W NW of Herrin

	Fecal Coli #/100 ml	DO mg/l	TSS mg/l	Total P mg/l	NO_3-N mg/l	NH_3-N mg/l	Iron Total mg/l	TDS mg/l	pH
MAXIMUM	1300	13.0	-	1.950	4.9	1.30	1.7	760	7.8
MINIMUM	20	3.0	-	.060	.4	.10	.8	280	4.6
MEAN	172	8.4	-	.460	1.4	.45	1.1	587	7.0

SUMMARY AND DISCUSSION OF WATER QUALITY INDICES (WQI)

Using four water quality parameters, dissolved oxygen, fecal coliform, total dissolved solids, and ammonia-nitrogen, water quality indices have been developed by the IEPA staff for each of the WQSS. The values of WQI have been compared with the findings and experiences of the IEPA field engineers and biological staffs. Based upon these values of the WQI, the WQSS have been assigned a rating of Good or Balanced (A), Average or Unbalanced (B), Fair or Semi-polluted (C), and Poor or Polluted (D). A summary of the WQI ratings from the years 1971 through 1975 for the WQSS within this segment is presented in Table 4. A detailed discussion about the WQI is presented in the Appendix C.

These water quality indices should, however, be taken with caution because they are based on water quality as measured in terms of four parameters only. Therefore, a rating of good or balanced (A), and average or unbalanced (B) assigned to any WQSS does not mean that other water quality parameters may not be in violation of the water quality standards at that WQSS.

Table 4 WATER QUALITY INDICES

STATION	1971	1972	1973	1974	1975
N-06	B	A	A	A	A
N-04	B	A	A	A	A
NF-01		B	B	B	A

It appears from the Water Quality Index ratings that since 1971 the quality of water in the Big Muddy River at the locations of water quality sampling stations N-06 and N-04 has improved from unbalanced to balanced in 1972 onward. The quality of water at the location water quality sampling station NF-01 in Hurricane Creek improved from unbalanced in 1972 through 1974 to balanced in 1975.

Summary and Discussion of Aquatic Life Survey Reports

In August, 1971 an aquatic life survey was conducted by the IEPA biological staff on Hurricane Creek near Herrin and an unnamed tributary which originates near Dura-Container Plant, at a railroad bridge approximately one-half mile downstream and west. The findings of this survey classified the portion of stream as polluted and the cause of which was attributable to discharges from Dura-Container Plant.

Summary and Discussion of 1975 Water Quality Problems and Violations

Parameters in violation of general use water quality standards, their values and sampling dates at the three water quality sampling stations within this segment are presented in Tables 5-7. Sources contributing or possibly contributing to the water quality violations shown are presented in Tables 8-13.

N-06:

The parameters in violation of the water quality standard at the water quality sampling station N-06 (Big Muddy river) are fecal coliform and field dissolved oxygen. The maximum recorded value of fecal coliform, was 23,000/100 ml. The minimum recorded field dissolved oxygen was 3.7 mg/l. (Table 5).

The point source discharges contributing to the fecal coliform violations are as listed in the Table 8. This problem would be reduced if not eliminated if disinfection is required at Benton STW NW.

Low field dissolved oxygen could be due to high ammonia nitrogen contained in the effluent discharged from Valier STW, Franklin County Housing Authority, and Benton STW NW. Also, low field dissolved oxygen may be due to low dissolved oxygen content of the Big Muddy River water coming from upstream segment B-01. It is quite likely that low dissolved oxygen problem at this location may persist, even if strict ammonia nitrogen and carbonaceous demand removal is imposed upon the above mentioned discharges, unless water coming from upstream segment B-01 has dissolved oxygen content of at least 5.00 mg/l.

N-04:

The parameters in violation of the water quality standard at the water quality sampling station N-04 (Big Muddy River) are fecal coliform, total iron, cadmium, mercury, pH, copper, and manganese. The maximum recorded values of fecal coliform, total iron cadmium, mercury, copper, and manganese were 1400/100 ml, 2.90 mg/l, 0.15 mg/l, 0.7 mg/l, 0.1 mg/l, and 1.14 mg/l, respectively. The minimum recorded pH was 6.1. (Table 6).

The point source discharges contributing to the fecal coliform violations are as listed in the Table 10. The requirements of disinfection of effluent from these point sources before being discharged into the stream would probably reduce the fecal coliform violations at this location.

The violations of water quality standard for total iron, cadmium, mercury, copper, and manganese are directly attributable to segment A-01, landfill and mine related activities: gob roads, gob piles, abandoned mines and permitted mines. Also, the quality of water being discharged by segment A-01 (Middle Fork headwaters to the confluence with Big Muddy River) which has considerable mine related activities contributes to the violations at this water quality sampling station.

NF-01:

The parameters in violation of the water quality standard at the water quality sampling station NF-01 (Hurricane Creek) are fecal coliform, field dissolved oxygen, total iron, pH, and manganese. The maximum recorded values of fecal coliform, total iron, and manganese were 1300/100 ml, 1.7 mg/l, and 1.7 mg/l, respectively. The minimum recorded field dissolved oxygen and pH were 2.5 mg/l, 4.6, respectively (Table 7).

The point source discharges contributing to the fecal coliform violations are as listed in the Table 12. Most of the facilities are planned for expansion.

The violations of water quality standard for total iron, pH, and manganese are directly attributable to segment A-02 and mine related activities: gob roads, gob piles, abandoned mines, and permitted mines.

Low field dissolved oxygen at this location could be due to high ammonia nitrogen and carbonaceous demand in the effluent of Energy STW and Crainville STW as well as the quality of water coming into Big Muddy River from Pond Creek (Segment A-02). Stringent requirements on permit conditions for ammonia nitrogen removal(treatment to 1.5 mg/l NH-N) and carbonaceous demand removal from the above mentioned treatment effluents could greatly improve the dissolved oxygen situation at this location. Also the chemical conversion of ferrous to ferric iron no doubt contributes to the depressed dissolved oxygen.

Water Quality Violations That Will Remain After Point Source Controls Are Operational

The following water quality parameters are being violated; these violations will not be corrected by control of known point source discharges:

N-04 : manganese, cadmium, total iron, mercury, pH, copper
NF-01: pH, total iron, manganese

In addition to those parameters above, the following parameter violations probably will not be corrected by control of known point source discharges:

N-06 : fecal coliform, dissolved oxygen
N-04 : fecal coliform
NF-01: fecal coliform, dissolved oxygen

TABLE: 5 PARAMETERS IN VIOLATION OF WATER QUALITY STANDARDS (GENERAL USE) FOR 1975
AT STATION N-06

PARAMETER AND LIMIT	PARAMETER VALUE	SAMPLE DATE
fecal coliform 200/100 ml	23,000	12/1
	1,800	11/21
	17,000	10/09
	220	9/25
	5,000	4/24
dissolved oxygen 5.0 mg/1	3.7	5/28

TABLE: 6 PARAMETERS IN VIOLATION OF WATER QUALITY STANDARDS (GENERAL USE) FOR 1975
AT STATION N-04

PARAMETER AND LIMIT	PARAMETER VALUE	SAMPLE DATE
fecal coliform 200/100 ml	440	12/09
	1400	9/23
	440	5/08
	780	2/25
manganese 1.0 mg/1	1.14	11/21
cadmium .05 mg/1	.150	8/20
total iron 1.0 mg/1	2.0	8/20
	1.2	5/08
	2.9	2/25
mercury .5 microg/1	.7	8/20
pH 6.5 to 9.0	6.1	5/08
copper .02 mg/1	.1	5/08

TABLE: 7 PARAMETERS IN VIOLATION OF WATER QUALITY STANDARDS (GENERAL USE) FOR 1975
AT STATION NF-01

PARAMETER AND LIMIT	PARAMETER VALUE	SAMPLE DATE
fecal coliform 200/100 ml	1300	10/09
	270	9/23
	610	6/17
	870	2/25
dissolved oxygen 5.0 mg/l	4.8	6/17
	3.0	5/08
pH 6.5 to 9.0	4.6	5/08
total iron 1.0 mg/l	1.7	4/15
manganese 1.0 mg/l	1.7	4/15
	1.33	1/22

TABLE: 8 POINT SOURCES CONTRIBUTING/POSSIBLY CONTRIBUTING TO WATER QUALITY VIOLATIONS

Water Quality Station: N-06

Key: x contained in effluent x 1975 effluent violation	PARAMETERS BEING VIOLATED AT WATER QUALITY SAMPLING STATION							
Pollutant Source	F.C.	Field DO	NH_3-N					
Corps of Engr. Rend Lake	x	x						
Bates Campgrd - Steak	x	x						
Valier STW	x	x						
Franklin Co. Hsing Authority	x	x						
Washington School #47	x	x						
Benton STW NW	x	x						
Rend Lake Safari Camp STW	x	x						

POINT SOURCES CONTRIBUTING/POSSIBLY CONTRIBUTING
TO WATER QUALITY VIOLATIONS

Table: 9
Water Quality Sampling Stations N-06

Pollutant Source	PARAMETERS BEING VIOLATED							
	F.C.	Field DO						
Upstream WQSS								
Agricultural Runoff	x	x						
Silvicultural Runoff								
Mining (strip & sub-surface)								
Urban Stormwater Runoff								
Solid Waste Leachate	x	x						
Construction Site Runoff								
Septic Tank Leachate								

TABLE: 10 POINT SOURCES CONTRIBUTING/POSSIBLY CONTRIBUTING TO WATER QUALITY VIOLATIONS

Water Quality Station: N-04

Key: x contained in effluent x 1975 effluent violation	PARAMETERS BEING VIOLATED AT WATER QUALITY SAMPLING STATION							
Pollutant Source	F.C.	Mn	Cd	Tot Fe	Hg	pH	Cu	
Ziegler STW	x							
Christopher N. Lgn	x							
Christopher S. Lgn	x							
Ziegler Royalton HS	x							

Table: 11
Water Quality Sampling Stations N-04

Pollutant Source	PARAMETERS BEING VIOLATED							
	F.C.	Mn	Cd	Tot Fe	Hg	pH	Cu	
Upstream WQSS								
Agricultural Runoff	x			X				
Silvicultural Runoff								
Mining (strip & sub-surface)		x	x	x	x	x	x	
Urban Stormwater Runoff								
Solid Waste Leachate		x	x	x	x	x	x	
Construction Site Runoff								
Septic Tank Leachate								

TABLE: 12 POINT SOURCES CONTRIBUTING/POSSIBLY CONTRIBUTING TO WATER QUALITY VIOLATIONS

Water Quality Station: NF-01

Key: x contained in effluent x 1975 effluent violation	PARAMETERS BEING VIOLATED AT WATER QUALITY SAMPLING STATION							
Pollutant Source	F.C.	DO	pH	tot Fe	Mn	NH_3-N		
Allen Ind Inc.								
Energy STW	x	x						
Crainville STW	x	x						
Colp STW	x	x						
Herrin STW	x	x						

Table: 13
Water Quality Sampling Stations NF-01

Pollutant Source	PARAMETERS BEING VIOLATED							
	F.C.	DO	pH	tot Fe	Mn			
Upstream WQSS								
Agricultural Runoff	x	x		x				
Silvicultural Runoff								
Mining (strip & sub-surface)			x	x	x			
Urban Stormwater Runoff								
Solid Waste Leachate		x		x	x			
Construction Site Runoff								
Septic Tank Leachate								

Big Muddy River Basin

Segment B-03

This is the lowermost segment on the main stem of the Big Muddy River Basin which extends over portions of Jackson and Union counties and extends from below the confluence with the Little Muddy River downstream to the Mississippi River. There are three Illinois Environmental Protection Agency (IEPA) water quality sampling stations within this segment. All three water quality sampling stations, N-07, N-02, and N-01 are located on the main stem of the Big Muddy River and are respectively given a sample type code (see Appendix E) of 1 and 4,2, and 1. An exact location of each water quality sampling station is given on Tables 1-3.

There is one United States Geological Survey (USGS) stream gaging station, Number 05599500, located on the Big Muddy River at Murphysboro within this segment.

There are fourteen point source discharges within this segment. Of these fourteen discharges, three are identified as municipal and the remaining eleven are identified as miscellaneous.

Existing Water Quality

A summary of the existing (1975 calendar year) water quality in terms of maximum, minimum, and mean values for nine of the parameters at the 3 IEPA water quality sampling stations (WQSS) is presented in Tables 1-3. The nine parameters are fecal coliform, dissolved oxygen, total suspended solids, total phosphorus, nitrate nitrogen, ammonia nitrogen, total iron, total dissolved solids, and pH. The units applicable to each parameter are shown in the tables. A discussion of the water quality summary tables is included in conjunction with "Summary and Discussion of 1975 Water Quality Problems and Violations."

Summary of 1975 Sampling Data

TABLE: 1
Station: N-07: US 51 Br 2 Mi S of DeSoto

	Fecal Coli #/100 ml	DO mg/l	TSS mg/l	Total P mg/l	NO_3-N mg/l	NH_3-N mg/l	Iron Total mg/l	TDS mg/l	pH
MAXIMUM	3400	13.8	-	.280	19.2	.35	4.7	470	8.1
MINIMUM	30	5.8	-	.110	.3	.05	1.6	150	3.6
MEAN	202	9.0	-	.207	3.2	.15	2.7	262	6.8

TABLE: 2
Station: N-02: Murphysboro Wtr Intake at E Edge of Town

	Fecal Coli #/100 ml	DO mg/l	TSS mg/l	Total P mg/l	NO_3-N mg/l	NH_3-N mg/l	Iron Total mg/l	TDS mg/l	pH
MAXIMUM	7300	13.8	-	7.600	15.0	.25	11.0	570	8.0
MINIMUM	0	5.5	-	.120	.2	.00	1.1	150	3.7
MEAN	240	8.8	-	.811	2.9	.16	4.2	310	6.9

TABLE: 3
Station: N-01: Rt 3 Br 5 Mi S of Grand Tower

	Fecal Coli #/100 ml	DO mg/l	TSS mg/l	Total P mg/l	NO_3-N mg/l	NH_3-N mg/l	Iron Total mg/l	TDS mg/l	pH
MAXIMUM	3000	12.6	-	.300	.7	.30	3.4	640	7.7
MINIMUM	30	5.5	-	.100	.2	.00	1.4	220	6.9
MEAN	260	9.1	-	.156	.4	.15	2.2	339	7.4

SUMMARY AND DISCUSSION OF WATER QUALITY INDICES (WQI)

Using four water quality parameters, dissolved oxygen, fecal coliform, total dissolved solids, and ammonia-nitrogen, water quality indices have been developed by the IEPA staff for each of the WQSS. The values of WQI have been compared with the findings and experiences of the IEPA field engineers and biological staffs. Based upon these values of the WQI, the WQSS have been assigned a rating of Good or Balanced (A), Average or Unbalanced (B), Fair or Semi-polluted (C), and Poor or Polluted (D). A summary of the WQI ratings from the years 1971 through 1975 for the WQSS within this segment is presented in Table 4. A detailed discussion about the WQI is presented in the Appendix[C].

These water quality indices should, however, be taken with caution because they are based on water quality as measured in terms of four parameters only. Therefore, a rating of good or balanced (A), and average or unbalanced (B) assigned to any WQSS does not mean that other water quality parameters may not be in violation of the water quality standards at that WQSS.

Table 4 WATER QUALITY INDICES

STATION	1971	1972	1973	1974	1975
N-07		A	A	A	A
N-02	A	A	A	B	A
N-01	A	A	A	A	A

It appears from the Water Quality Index ratings that since 1972 through 1975 and from 1971 through 1975, the quality of water in the Big Muddy River at the locations of water quality sampling stations N-07 and N-01 has been balanced. At the location of water quality sampling station N-02, the quality of water in the Big Muddy River deteriorated from balanced in 1971 through 1973 to unbalanced in 1974. However, it again improved to balanced in 1975.

Summary and Discussion of Aquatic Life Survey Reports

No aquatic life survey reports were available in the file.

Summary and Discussion of 1975 Water Quality Problems and Violations

Parameters in violation of general use water quality standard, their values, and sampling dates at the three water quality sampling stations within this segment are presented in Tables 5 through 7. Sources contributing or possibly contributing to the water quality violations shown are presented in Tables 8 through 13.

N-07:

The parameters in violation of the water quality standard at water quality sampling station N-07 (Big Muddy River) are fecal coliform, total iron, and pH. The maximum recorded values of fecal coliform and total iron were 3400 organisms/100 ml and 4.7 mg/l, respectively. The minimum recorded pH was 3.6 mg/l.

Undoubtedly, the total iron and pH violations of water quality standard are attributable to mine related activities: gob roads, gob piles, abandoned mines, and active mines within this segment and over the entire Big Muddy River basin.

There is no point source discharge contributing to this water quality sampling station N-07. Consequently, the violations of water quality standard for fecal coliform can be attributed to that coming from upstream Segments A-03 (Little Muddy River watershed) and B-02 plus any scattered livestock operations in the area.

N-02:

The parameters in violation of the water quality standard at the water quality sampling station N-02 (Big Muddy River) are fecal coliform, total iron, and pH. The maximum recorded values of fecal coliform and total iron were 7300 organisms/100 ml and 11.00 mg/l, respectively. The minimum recorded pH was 3.7 mg/l.

The total iron and pH violations of water quality standard at this water quality sampling station are directly attributable to mine related activities: gob roads, gob piles, abandoned mines in the area and that coming from Segment A-04 (Beaucoup Creek watershed) and water quality sampling station N-07.

The point source discharges contributing to the fecal coliform violations are as listed in Table 9. Almost all of the point source discharges have chlorination facilities, still they are discharging high numbers of fecal coliform in their effluents. It appears if these point source discharges, especially Southern Illinois Airport and Jackson Country Club, properly disinfect their effluents, the fecal coliform problem at this water quality sampling station would be reduced.

N-01:

The parameters in violation of the water quality standard at water quality sampling station N-01 (Big Muddy River) are fecal coliform and total iron. The maximum recorded values of fecal coliform and total iron were 3000 organisms/100 ml and 3.6 mg/l, respectively.

The total iron violation of water quality standard at this water quality sampling station is directly related to upstream segments and mining related activities: gob roads, gob piles, and abandoned mines in the area.

The point source discharges contributing to the fecal coliform violations are as listed in Table 11. Of the treatment plants contributing to this water quality sampling station, two have chlorination facilities and the other two do not have disinfection. It appears that if the treatment plants with no chlorination facilities start disinfecting their effluents and the treatment plants with chlorination facilities properly disinfect their effluents, the fecal coliform violations of water quality standard at this water quality sampling station would be reduced.

Water Quality Violations That Will Remain After Point Source Controls Are Operational

The following water quality parameters are being violated; these violations will not be corrected by control of known point source discharges:

N-07: fecal coliform, total iron, pH
N-02: total iron, pH
N-01: total iron

In addition to those parameters above, the following parameter violations probably will not be corrected by control of known point source discharges:

N-02: fecal coliform
N-01: fecal coliform

TABLE: 5 PARAMETERS IN VIOLATION OF WATER QUALITY STANDARDS (GENERAL USE) AT STATION N-07 FOR 1975

PARAMETER AND LIMIT	PARAMETER VALUE	SAMPLE DATE
fecal coliform 200/100 ml	3400	12/17
	340	10/02
	260	9/08
	1200	8/06
	300	6/30
	300	1/09
total iron 1.0 mg/l	1.7	10/02
	1.6	6/30
	4.7	4/03
	2.9	1/09
pH 6.5 to 9.0	4.5	4/03
	3.6	1/09

TABLE: 6 PARAMETERS IN VIOLATION OF WATER QUALITY STANDARDS (GENERAL USE) AT STATION N-02 FOR 1975

PARAMETER AND LIMIT	PARAMETER VALUE	SAMPLE DATE
fecal coliform 200/100 ml	7300	12/17
	510	10/02
	310	8/06
	220	7/14
	3800	6/11
	340	4/03
	2400	1/09
total iron 1.0 mg/l	1.1	10/02
	1.6	7/14
	3.3	4/03
	11.0	1/09
pH 6.5 to 9.0	3.7	4/03

TABLE: 7 PARAMETERS IN VIOLATION OF WATER QUALITY STANDARDS (GENERAL USE) AT STATION N-01 FOR 1975

PARAMETER AND LIMIT	PARAMETER VALUE	SAMPLE DATE
fecal coliform 200/100 ml	3000	12/22
	250	10/06
	280	9/29
	1300	8/05
	540	6/19
	510	4/21
	240	2/19
	350	1/28
total iron 1.0 mg/l	3.4	12/22
	1.5	9/29
	1.4	6/19
	2.6	3/25

TABLE 8

POINT SOURCES CONTRIBUTING/POSSIBLY CONTRIBUTING
TO WATER QUALITY VIOLATIONS

Water Quality Station: N-07

Key: x contained in effluent x 1975 effluent violation	PARAMETERS BEING VIOLATED AT WATER QUALITY SAMPLING STATION							
Pollutant Source	FC	total Fe	pH	Ag	DO	Mn	NH_3-N	
Carbondale NW STW Cl_2	X				X			
Edgewood MH Est.-STK					X			
Green Acres Court Lgn Cl_2	X				X			
Parrish Paul Apts.					X			
SIU Office & Storage Cl_2	X				X			
Tan-Tara MHP #2					X			
Union Hills - Lake Lenore Cl_2	X				X			
New Thompson Lake Fishing					X			

SOURCES CONTRIBUTING/POSSIBLY CONTRIBUTING
TO WATER QUALITY VIOLATIONS

Table: 9
Water Quality Sampling Stations N-07

Pollutant Source	PARAMETERS BEING VIOLATED							
	F.C.	Tot Fe	pH					
Upstream WQSS	x	x	x					
Agricultural Runoff	x	x						
Silvicultural Runoff								
Mining (strip & sub-surface)		x	x					
Urban Stormwater Runoff								
Solid Waste Leachate								
Construction Site Runoff								
Septic Tank Leachate								
Upstream Segments A-03 & B-02	x	x	x					

TABLE: 10 POINT SOURCES CONTRIBUTING/POSSIBLY CONTRIBUTING TO WATER QUALITY VIOLATIONS

Water Quality Station: N-02

Key: x contained in effluent x 1975 effluent violation	PARAMETERS BEING VIOLATED AT WATER QUALITY SAMPLING STATION							
Pollutant Source	F.C.	Tot.Fe	pH					
Southern IL Airport Cl_2	x							
Jackson Country Club Cl_2	x							
McBride Tr. Pk.								
Fairway Mobile Home Cl_2	x							
Lake Chautauqua Subd Cl_2	x							
Fairway Vista Murdal WD	x							

Table: 11
Water Quality Sampling Stations N-02

Pollutant Source	PARAMETERS BEING VIOLATED							
	F.C.	Tot Fe	pH					
Upstream WQSS	x							
Agricultural Runoff	x	x						
Silvicultural Runoff								
Mining (strip & sub-surface)		x	x					
Urban Stormwater Runoff								
Solid Waste Leachate								
Construction Site Runoff								
Septic Tank Leachate								
Upstream Segment	x	x	x					

TABLE: 12 POINT SOURCES CONTRIBUTING/POSSIBLY CONTRIBUTING TO WATER QUALITY VIOLATIONS

Water Quality Station: N-01

Key: x contained in effluent x 1975 effluent violation	PARAMETERS BEING VIOLATED AT WATER QUALITY SAMPLING STATION							
Pollutant Source	F.C.	Tot Fe						
Murphysboro #002 Cl_2	x							
Grand Tower	x							
Country Village Tr. Pk.								
Suburban Trailer	x							
Hillcrest Village STW Cl_2	x							
Lake Murphysboro St. Pk. Cl_2								
Gorham SD SW Cl_2								
Leady H Development Cl_2								

SOURCES CONTRIBUTING/POSSIBLY CONTRIBUTING
TO WATER QUALITY VIOLATIONS

Table: 13
Water Quality Sampling Stations N-01

Pollutant Source	PARAMETERS BEING VIOLATED							
	F.C.	Tot Fe						
Upstream WQSS								
Agricultural Runoff	x	x						
Silvicultural Runoff								
Mining (strip & sub-surface)		x						
Urban Stormwater Runoff								
Solid Waste Leachate								
Construction Site Runoff								
Septic Tank Leachate								
Upstream Segments	x	x						

CHAPTER V

FACILITIES PLANNING AREAS

The Facilities Planning Area is defined as that area deemed necessary to prepare an environmental assessment and to assure that the most cost-effective means of achieving the established water quality goals can be planned and implemented. Pursuant to Section 35.917-2 of the Federal Register (Vol. 39, No. 29, Monday, February 11, 1974), the Illinois Environmental Protection Agency has delineated, as a preliminary basis for planning, the boundaries of each area in the state for which municipal waste treatment facilities must be planned. These areas have been delineated with consideration given to maximization of cost savings, management efficiencies, environmental gains or other factors that may result from interconnection of individual waste treatment systems or collective management of these systems. As planning progresses for each area, local officials are consulted to ascertain the desirability of adjustments in area boundaries and the selection of a local agency or agencies which will be responsible for the conduct of facilities planning in each area.

Appendix F of this document includes facilities planning areas for the Big Muddy River Basin as delineated at this time.

APPENDIX C

WATER QUALITY INDEX

There are a number of ways of summarizing large bodies of complex data. Among these, maps, graphs, tables, and indices are commonly used, and are familiar to the American public as weather forecasting, stock market reports, cost of living increases, and environmental and air pollution indices. Well constructed indices when properly employed summarize large amounts of information in a single number; these numbers can be easily compared, and trends determined, even by those having no intimate knowledge of the individual factors used in the calculation.

According to the National Academy of Sciences report "Planning for Environmental Indices" (1975):

> Environmental indices are means for assimulating information about one or more aspects of the environment. Their purposes are to enhance communication and to facilitate the judgment and decision-making processes. Environmental indices are potentially powerful tools for highlighting significant environmental conditions, illustrating major trends, formulating environmental goals, and measuring progress toward these goals. They can be useful in devising environmental control programs and determining their success, both prospectively and retrospectively. Indices can be effective ...[in] informing laymen and professionals alike about the status of environmental quality.

The wide utility of a sound environmental index, makes the development of such an index attractive. If the index is to be useful, it should be flexible, in terms of the ease with which parameters and data are added or dropped; operate over a finite, explicit range; incorporate information about the appropriate standard; operate on a linear scale; and be capable of comparison across years and projection into the future.

Because none of the available indices met these requirements a new index was developed. This index has a well known statistical form. Because the properties of this form are known, the significance of trends, unusual observations in the original data, and the significance of differences in index values can be readily assessed.

Further, the index has been used to correlate subjective field inspection assessments, or biological monitoring reports with chemical water quality data, and provides the first link among these.

If the concept of water quality standards is valid, and if the standards themselves are properly set, then pollutional levels can be monitored both by the frequency and magnitudes of violations. Numerous attempts to utilize raw data have been made, with few substantive results, since the various parameters operate over different ranges, and are measured on different scales. Viable approaches, therefore, must operate on uniform, dimensionless scales. Such a scale can be developed using data ranks and normalized, rather than raw, data. The water quality index described here is such an index.

After careful consideration of the most significant single-parameter indicators of man-made and natural pollution for which water quality standards exist, it was found that no single set of parameters would be sufficient to detect all possible pollutional events. However, with few exceptions, fecal coliforms, DO, TDS, and ammonia nitrogen, collectively, are adequate indicators of most pollutional events. An objective, statistically sound, water quality index was developed which employs these parameters. (Any other (set of) parameters could be used without modification of the index). The procedure is given below.

i) For each water quality parameter used (e.g. ammonia, field DO, fecal coliform, etc.) select a minimum or maximum value. Water quality standards are such values.

ii) Assign ranks, R_{ij}, to each column of water quality parameters, including the control value (standard or legal limit). If the observations are tied, then the tied observations are

given the average rank of the observations assuming no ties. If the jth value for the ith parameter is better than or equal to the standard, then R_{ij} is assigned the same rank, R_{ic}, as the standard. In this manner only values which are contributing to the pollution are taken into consideration.

iii) Compute the variance of the data ranks for each parameter using the formula:

(1) $$\text{Variance } (R_i) = \frac{1}{12n} \left(n^3 - n - \sum_{\text{all}} (t_k^3 - t_k)\right)$$

where $i = 1, 2, \ldots p$

p = number of parameters

n = number of observations in each column plus control value

t_k = number of observations in a tie of the kth type.

$(k = 0, 1, 2, \ldots n)$

(2) The standardized variate is defined as

$$Z_{ij} = (R_{ij} - R_{ic}) / \sigma_{Ri}$$

where $j = 1, 2, \ldots n_i$ and $i = 1, 2, \ldots p$,

R_{ij} is the rank of the jth observation in the ith parameter,

R_{ic} is the rank of the control value for the ith parameter, and

σ_{Ri} is the standard deviation of the data ranks for the ith parameter.

(3) Compute

$$S = \sum_{i=1}^{p} \sum_{j=1}^{n_i} Z_{ij}^{2}$$

(4) Compute the sum of the ranks,

$$T = \sum_{i=1}^{p} \sum_{j=1}^{(n_i-1)} R_{ij}$$

excluding the ranks of the control values, then

(5) Define the index:

$$P_1^* = (S/(T + S))^{\frac{1}{2}}$$

Application of the central limit theorem shows that the standardized variate Z_{ij} follows the standard normal distribution for large values of m (= n-1). It is a well-known fact that the square of a standard normal variate is a chi-square variate and, therefore, the variable S, which is $\sum_i \sum_j Z_{ij}^2$, follows a chi-square distribution for large samples. Thus, there are sound theoretical reasons for defining the index P_1^* as given previously. Simulations (for each parameter), from 2,000 samples of sets of 12 observations on each of four parameters, showed that Z follows a standard normal distribution, and S a chi-square distribution.

The beta distribution arises naturally as the distribution of the ratio

(6) $Y_1^2 / (Y_1^2 + Y_2^2)$

where Y_1^2 and Y_2^2 are independent random variables having chi-square distributions. Alternatively, if Y_1^2 is chi-squared distributed and

Y_2^2 is constant, the ratio (6) also follows the β- distribution. In our case, S is chi-squared distributed, and T is approximately constant. Therefore, by extrapolation, the ratio S/(S + T) and the index P_1^* are expected (and found) to follow a beta distribution is the domain (0, b), $0<b<1$.

In order that the index P_1^* assume the complete range of (0, 1), a transformation has to be made on P_1^*. This transformation is $P_1=P_1^*/b$. A formula for calculating 'b' is given by equation (7).

$$(7) \quad b = \left(\frac{2 \sum_{i=1}^{p} n_i^2}{3 \sum_{i=1}^{p} n_i^2 + \sum_{i=1}^{p} n_i - 2p} \right)^{\frac{1}{2}}$$

That the index P_1 is dependent on the number of parameters and the number of observations can be seen from the formula for 'b'. If we have the same number of observations within each parameter, then the value of 'b' reduces to

$$(8) \quad b = \left(\frac{2n^2}{3n^2 + n-2} \right)^{\frac{1}{2}}$$

This clearly shows that the index depends only on the number of observations and not on the number of parameters, provided that there are an equal number of observations for each parameter.

APPENDIX D

BIOLOGICAL INVESTIGATION PROCEDURES

Principle:

The purpose of a stream investigation is to determine the condition of the environment by observing and identifying the inhabitants. An intimate knowledge of the interrelationship of stream life is necessary for effective sample collection and interpretation. Interpretation depends on observation and accurate identification of species collected. Samples, to be of value, must be collected by trained individuals.

Aquatic Biologists conducting stream investigations shall follow "Standard Methods for the Examination of Water and Wastewater", thirteenth edition, or other acceptable methods. The following guidelines shall be included:

Significance:

A biological stream investigation is significant in detecting varying degrees of pollution, in detecting changes in the environment through repeated sampling, in monitoring for water quality management, and in establishing water use limits.

Sample:

I. Sample collection shall be conducted in the following manner.

   A. Collect from morphologically comparable environments.

   B. Collect upstream and downstream and in the area of interest where applicable.

   C. Collection should progress upstream until a balanced condition is found or existing conditions can be identified.

   D. Collection should progress downstream far enough to delineate zones of degradation when present and/or to reveal environmental changes which may be brought about by confluence with another stream.

   E. Collect to the point of diminishing returns, however, not less than one-half hour or more than two hours per station.

   F. Collect upstream from access points to avoid litter.

II. Identification of specimens shall be determined based on the intent of the investigation.

A. General identification shall be to the taxonomic category necessary to identify organisms with a tolerance status.

1. Enforcement survey samples.
2. Preliminary survey samples.
3. Update survey samples, (improvement survey).
4. Intensive survey samples, (basin survey).

B. Species identification shall be to the taxonomic category of species or the next highest category based on available keys.

1. Intensive survey background samples.
2. Water Quality Primary Monitor Survey Samples.
3. Background survey samples.

C. Disposition of specimens shall be at the discretion of the collector, however, specimens retained need not be identifiable with a survey sampling area.

III. Classification of specimens shall follow the tolerance status listed in "Tolerance Status of Aquatic Macroinvertebrate Organisms Found in Illinois Waters", effective date, January, 1974.

IV. Data collection shall be for the purpose of scientific support for statements and consultations.

A. Specimens identified which have no established tolerance classification shall be saved for further study and consideration.

1. During the interim, they generally will be classed as other representatives of the genus or family.

2. Where the genus or family has representatives with conflicting tolerance status, the newly found species will be classed according to the station classification, e.g., if the station is balanced, the species is intolerant; if unbalanced or semi-polluted, the species is moderate; if the station is polluted, the species is tolerant. Beetles are facultative.

3. A file will be kept on the species for the purpose of establishing its tolerance status.

B. Sample records shall be kept and retained by the Aquatic Biologist as a permanent species collection record for the Agency.

Stream Environment:

I. Classification of environements shall be on the basis of identified specimens collected from the area sampled.

A. Each collection site or area shall be classified according to the "Stream Classification System", effective date, January 1, 1974.

B. Each stream segment sampled which is identifiable as such shall be classified according to zones.

II. Terrestrial environmental factors of the sample area shall be listed.

A. Man's influence on the environment.

1. Urban
2. Industrial
3. Bridge
4. Road
5. Farming activities
6. Other influencing factors

a. Tile Drain
b. Dam
c. Road drainage

7. Mining

B. Physiographic features of the sample area.

1. High bank
2. Low bank
3. Flood plain
4. Hills
5. Outcroppings

C. Other environmental factors.

1. Forest
2. Wood lot
3. Grassland

III. Aquatic environmental factors of the sample area shall be listed.

A. Stream flow data shall be determined as cubic feet per second.

B. General odor of the bottom materials shall be noted.

C. Chemical field determinations may be included.

1. Dissolved oxygen
2. pH
3. Temperature ^{o}F
4. Chlorine

D. Physical features of the stream.

1. Stream bed

a. Sand
b. Gravel
c. Rock
d. Intermixture
e. Soft mud
f. Clay
g. Sludge-like material

2. General features

a. Riffle
b. Pool
c. Log jam
d. Miscellaneous debris

Survey:

I. Enforcement surveys shall be conducted to determine environmental conditions upstream and downstream from suspected or known sources of pollution with particular attention to the length of stream affected and degree of degradation.

II. Preliminary surveys (same as I.).

III. Update or Improvement surveys (same as I.).

IV. Variance surveys (same as I.).

V. Intensive surveys (Basin Survey); shall be conducted to determine the areas of degradation associated with point source discharges and non-point sources of pollution. In addition, intensive surveys will include background stations which reflect environments unaffected by pollution when possible.

VI. Water quality primary monitoring surveys shall be conducted to monitor changes which may occur in environments as they relate to bacteriological and chemical characteristics. They also help to establish species range and diversity.

VII. Background surveys shall be conducted as needed to obtain data for specific assignments.

A. Establishment of new regulations.

B. Change in regulations.

C. Support data for preconstruction.

D. Research.

E. Special monitoring of areas from which no prior data is available.

F. Recording of species range and diversity.

G. Training

References:

Welch, Paul S., "Limnological Methods"; The Blakiston Company, Philadelphia, Pennsylvania (1948).

Pennak, Robert W., "Freshwater Invertebrates of the United States", The Ronald Press Company, New York, New York (1953).

IEPA, "Tolerance Status of Aquatic Macroinvertebrate Organisms Found in Illinois Waters", unpublished report, January, 1974.

IEPA, "Classification of Aquatic Environments", unpublished report, January, 1974.

FEPA, "Biological Field and Laboratory Methods for Measuring the Quality of Surface Waters and Effluents", edited by C. I. Weber, National Environmental Research Center, Cincinnati, July, 1973.

"Standard Methods for Analysis of Water and Wastewater", 13th edition.

APPENDIX E

INDEX TO STATION TYPES

The following sample type codes indicate the sampling frequencies at each of the IEPA water quality sampling stations in the Basin.

Sample Type	Frequency and Parameters
1	a) Monthly grab samples obtained at each of the IEPA water quality network stations were analyzed for temperature, dissolved oxygen, pH, ammonia nitrogen, nitrite-nitrate nitrogen, total phosphorus, and fecal coliform. b) Quarterly (one fourth of the monthly samples), the samples are also analyzed for arsenic, barium, boron, cadmium, hexavalent chromium, trivalent chromium, copper, cyanide, total iron, lead, manganese, mercury, nickel, selenium, silver, zinc, fluoride, chloride, sulfate, phenol, MBAS, and total dissolved solids.
2	Same as type 1 above only dissolved oxygen usually not run because samples are collected from intake pipes which are remote from the water source.
3	Two sets of samples are collected each month. Set #1 includes pH, total phosphorus, phenols, fecal coliform, ammonia nitrogen, nitrite-nitrate nitrogen, specific conductivity, fluoride, chloride, sulfate, MBAS, turbidity, color, plankton (total), gross alpha and beta radioactivity, hardness, alkalinity, and COD. Set #2 includes all parameters of Set #1 except gross alpha and beta radioactivity plus arsenic, barium, boron, cadmium, total chromium, copper, cyanide, total iron, lead, manganese, mercury, nickel, selenium, and zinc.
4	Biological monitoring was conducted at these stations during Fiscal Year 1975 and will be conducted at these stations in future years on a 4-5 year cycle.

FY '76 WATER QUALITY SAMPLING STATION NETWORK
BIG MUDDY RIVER BASIN

BASIN CODE	STATION NUMBER	STREAM NAME	STATION LOCATION DESCRIPTION	SAMPLE TYPE CODE
N	01	BIG MUDDY RIVER	RT 3 BR 5 MI S OF GRAND TOWER	1
N	02	BIG MUDDY RIVER	MURPHYSBORO WTR INTK AT E EDGE TOWN	2
N	04	BIG MUDDY RIVER	RT 148 BR 4 MI NNW OF HERRIN	1
N	06	BIG MUDDY RIVER	RT 14 BR 3 MI W OF BENTON	1 + 4
N	07	BIG MUDDY RIVER	US 51 BR 2 MI S OF DESOTO	1 + 4
N	08	BIG MUDDY RIVER	RT 15 BR 3 MI W OF MT VERNON	1
NB	01	KINCAID CREEK	N OF RT 3 AT DAM	1
NC	02	BEAUCOUP CREEK	RT 149 BR 1.5 MI E OF RT 13	1
NC	03	BEAUCOUP CREEK	RT 13-127 BR 5 MI N OF VERGENNES	1 + 4
NC	05	BEAUCOUP CREEK	RT 154 BR AT E EDGE OF PINCKNEYVILL	1
NCB	01	RATTLESNAKE CREEK	RT 4 BR 1 MI N OF ORAVILLE	1
NCD	01	GALUM CREEK	CO RD BR 6 MI N OF ORAVILLE	1
NCD	02	GALUM CREEK	CO RD BR 3 MI W OF PYRAMID ST PK	1
ND	01	CRAB ORCHARD CREEK	TWP RD BR 4 MI NE OF CARBONDALE	1
ND	02	CRAB ORCHARD CREEK	CO LINE RD BR AT CRAB ORCHARD DAM	1
ND	03	CRAB ORCHARD CREEK	I-57 BR 1.5 MI S OF MARION	1
ND	04	CRAB ORCHARD CREEK	RT 13 BR 1 MI E OF MARION	1 + 4
NE	03	LITTLE MUDDY RIVER	RT 149 BR 2 MI E OF DESOTO	1 + 4
NE	04	LITTLE MUDDY RIVER	RT 14 BR 2 MI E OF OLD DUGUOIN	1
NEB	01	REESE CREEK	RT 14 BR 1 MI E OF OLD DUQUOIN	1
NF	01	HURRICANE CREEK	TWP RD BR 4 MI WNW OF HERRIN	1 + 4
NG	01	POND CREEK	RT 148 BR 3 MI NNW OF HERRIN	1
NG	02	POND CREEK	RT 37 BR AT S EDGE OF W FRANKFORT	1
NGA	01	LAKE CREEK	TWP RD BR 2 MI N 1 MI E OF HERRIN	1
NH	05	MID FK BIG MUDDY R	RT 37 BR 1 MI N OF W FRANKFORT	1 + 4
NJ	07	CASEY FK BIG MUDDY	RT 37 BR 3 MI S OF MT VERNON	1 + 4
NK	01	RAYSE CREEK	TWP RD BR 2 MI N OF WALTONVILLE	1 + 4

State of Illinois

Environmental Protection Agency

PHASE I

of the

WATER QUALITY MANAGEMENT BASIN PLAN

for the

BIG MUDDY RIVER BASIN

Volume III

Discharge Information Sheets

Printed by the Authority of the State of Illinois

July 1, 1976

Organization of Volumes

Volume

I Existing Water Quality

This volume is the main document for the Phase I Plans. It contains the identification of water quality problems of the basin and sets forth an initial interim program to alleviate those problems. It has been arranged by chapters and includes Appendices C, D, and E.

II County Maps (Appendix A)

Discharge points of the wastewater treatment facilities within the basin have been provided on county maps with the related basin and segment lines shown. An additional set of county maps has been included to show the locations of the operating solid waste disposal sites, public water supply treatment facilities that discharge to surface waters and the associated surface water intakes, permitted feedlots, deep well disposal sites, and permitted mines in the basin. Additional information concerning each discharge may be found in Volume III.

III Discharge Information Sheets (Appendix B)

This volume contains a collection of information sheets including wastewater treatment facilities, permitted feedlots, public water supply facilities, deep well disposal sites, permitted mines, and operating solid waste disposal sites. An index to discharges within each county in the basin is provided. Locations of the discharges may be found on the maps in Volume II.

IV Facility Planning Area Maps (Appendix F)

Preliminary FPA boundaries are shown as delineated at this time within the basin. Each county map has been divided into a number of overlapping portions designated A, B, C, etc. and so labeled. The appropriate FPA and corresponding county map for a specific facility may be determined by referring to the information sheet found in Volume III.

APPENDIX B

DISCHARGE INFORMATION SHEETS

Significant data has been collected for all known wastewater treatment facility discharges. In addition, minimal pertinent data has also been accumulated for various other sources of wastewater including permitted feedlots, operating solid waste disposal sites, public water supply facilities that discharge to surface waters, deep well disposal sites, and operating coal mines. The organization of this data has been dependent on two information items: the name of the discharger and the location (segment) of the point of discharge.

Since some facilities are not located in the same segment or basin as the point of discharge, indexes covering entire counties are provided. The first index gives the appropriate basin and segment for each wastewater treatment facility. A similar index is composed of nonpoint sources of wastewater (mines, deep wells, landfills, feedlots, and water supplies). The corresponding data sheets for this basin (see Figure 1) follow each index and are arranged in alphabetical order by name within each segment.

All data has been presented on similar forms depending on the nature of the discharge. Figure 2 shows the predominant type of discharge information sheet used and an explanation of data items. Table 1 provides the coding used for the project description under the Grant Information heading.

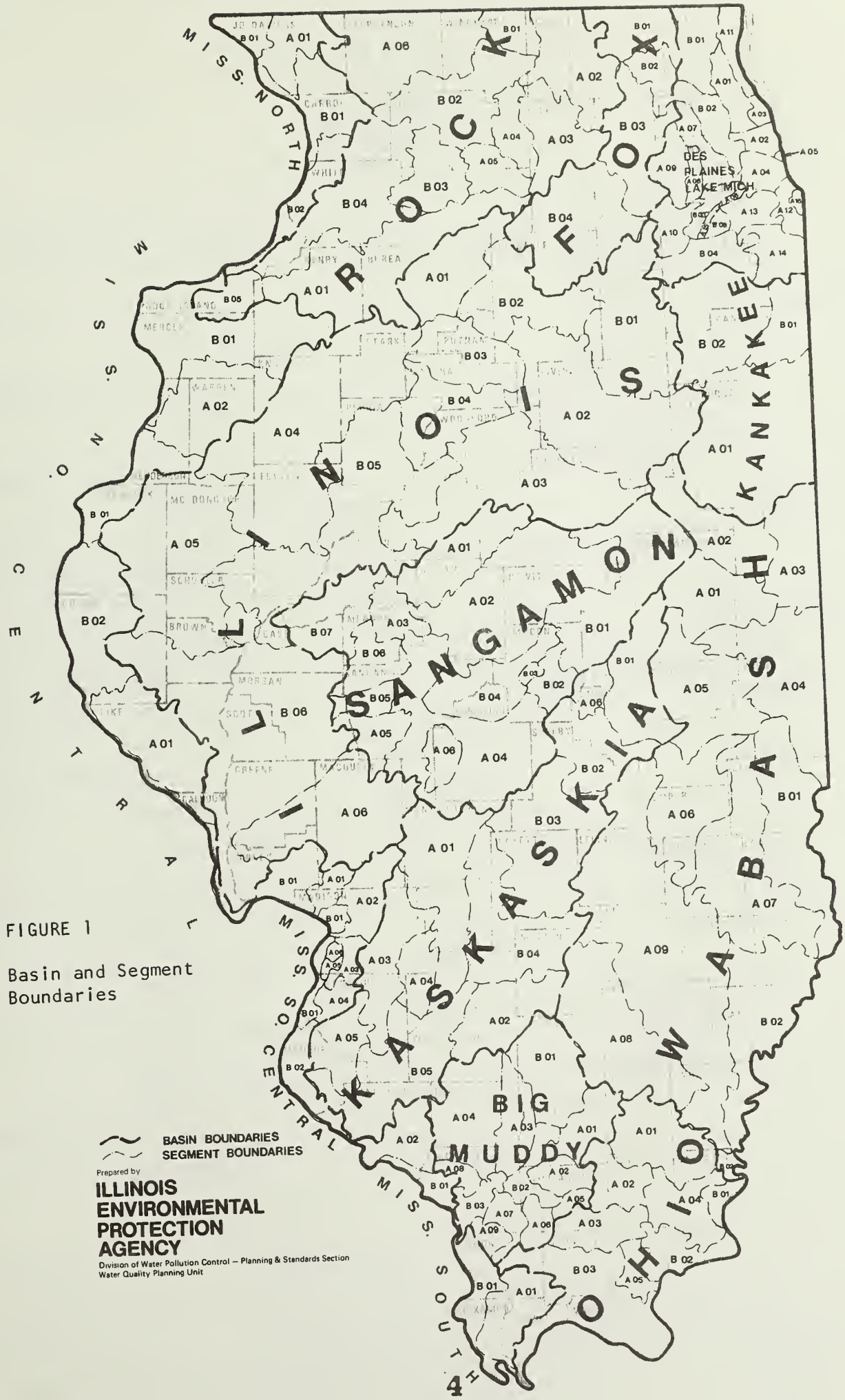


FIGURE 1

Basin and Segment Boundaries

FIGURE 2

POINT SOURCE INFORMATION

NAME *Legal name of discharger*

MAP REFERENCE NO: *Refers to Map #1*
CONTROL NO: *
REGISTRATION NO: *
COUNTY:

BASIN:
SEGMENT:

RECEIVING STREAM: *The stream receiving the discharge plus those streams downstream from the discharge*

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): *From the IWS Low Flow maps (Bulletin 57)*

FACILITY INFORMATION

TREATMENT TYPE: *Description of treatment processes*

PRESENT EFFLUENT QUALITY (MG/L):
BOD TSS NH_3-N
Mean data for 1974 collected by IEPA

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:
Parameters in violation of the effluent standards in Chapter 3

DESIGN AVERAGE FLOW (MGD):
Average design capacity of the plant

AVERAGE FLOW (MGD):
Recent average flow values

SEWER TYPE:

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL *Permit number*
EFFECTIVE DATE:
INTERIM LIMIT. DATE: *Last day the interim limitations are effective*
EXPIRATION DATE:

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD TSS F COLI/100 ML NH_3-N	*As specified in the permit or by dilution ratios from Chapter 3*	

PLANNING AREAS

PLANNING AREA
201: *Section 201 of PL 92-500*
208: *Section 208 of PL 92-500*

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: *For use with Volume IV*

COMPLIANCE SCHEDULE

Dates specified in the permit

GRANT INFORMATION

PROJECT DESCRIPTION:
Code is provided on Table 1

PROJECT NO:

TOTAL COST:
Estimated cost for the project

PRIORITY RANK:
Relative position for the fiscal year in relation to funding

COMMENTS

**For internal use only*

OPERATOR CERTIFICATION

To be completed at a later date
PRESENT:
NEEDED:

TABLE 1

Project Description Codes

for

Construction Grant Project/Priority List

CODE	DESCRIPTION
0	None - Existing treatment and facility adequate.
1	Enlargement of existing treatment plant - additional capacity required; existing level of treatment unchanged.
2	Modification of existing treatment plant - improve plant operation or utilization; existing level of treatment and capacity unchanged.
10	Disinfection.
11	Nutrient removal.
18	Connection of facility to another system or plant.
20	Combined sewer overflow control (at plant).
21	Construction or improvement of interceptor sewer.
22	Construction or improvement of outfall.
35	Pretreatment (new plant).
36	Primary treatment (new plant).
37	Secondary treatment (new plant).
47	Upgrade primary plant to secondary plant.
38	Lagoons (new plant).
48	Upgrade existing lagoon to secondary or tertiary lagoon.
39	Tertiary treatment (new plant).
49	Upgrade existing primary or secondary plant to tertiary plant.
99	Other requirement not defined by code.

EXPLANATORY NOTE: If an odd number of digits occurs, the first digit should be taken singly, and additional digits taken pairwise left-to-right. If an even number of digits occurs, the digits should be taken pairwise left-to-right beginning with the first digit.

WASTEWATER TREATMENT FACILITIES AND MONITORING STATIONS IN FRANKLIN COUNTY AS SHOWN ON MAP I

Wastewater Treatment Facility Discharges

Name	Registration No.	Basin	Segment	Map No.
Akin Sch-Dist 91-Akin	NHG 055 01	Big Muddy	A-01	1
Bates Campground-STK	NZN 055 02	Big Muddy	B-02	6
Benton STW NW	NZP 055 01	Big Muddy	B-02	3
Benton STW SE	NH 055 07	Big Muddy	A-01	2
Cable Service Co-W Frank	NG 055 --	Big Muddy	A-02	1
Christopher N Lgn	N 055 07	Big Muddy	B-02	8
Christopher S Lgn	N 055 10	Big Muddy	B-02	9
Corps of Engr-Rend Lake	N 055 11	Big Muddy	B-02	1
Franklin Co Hsng Auth	NZO 055 01	Big Muddy	B-02	4
Logan School 110	NHB 055 01	Big Muddy	A-01	4
Mulkeytown School 32	NE 055 01	Big Muddy	A-03	10
Rend Lake Safari Camp STW	NZQ 055 01	Big Muddy	B-02	2
Royalton STW	N 055 06	Big Muddy	B-02	12
Sesser STW	NZS 055 01	Big Muddy	B-01	16
Shady Oaks Priv Camp-STK	N 055 14	Big Muddy	B-01	17
Sullivan-Rend Lake Tr Pk	NH 055 04	Big Muddy	A-01	3

WASTEWATER TREATMENT FACILITIES AND MONITORING STATIONS IN FRANKLIN COUNTY AS SHOWN ON MAP I

Wastewater Treatment Facility Discharges

Name	Registration No.	Basin	Segment	Map No.
Thompsonville STW	NHBB 055 01	Big Muddy	A-01	5
Valier STW	NZN 055 01	Big Muddy	B-02	7
Washington School #47	NZO 055 04	Big Muddy	B-02	5
West Frankfort STW	NH 055 01	Big Muddy	A-01	6
Ziegler-Royalton H.S.	NZM 055 01	Big Muddy	B-02	11
Ziegler STW	N 055 04	Big Muddy	B-02	10

WASTEWATER TREATMENT FACILITIES AND MONITORING STATIONS IN JACKSON COUNTY AS SHOWN ON MAP I

Wastewater Treatment Facility Discharges

Name	Registration No.	Basin	Segment	Map No.
Apostolic Church Rt. 13 N	NCA 077 02	Big Muddy	B-03	16
Ava STW	NCB 077 01	Big Muddy	A-04	11
Bakers Slaughtering	NC 077 08	Big Muddy	B-03	17
Bush Mobile Homes No. 1	NDC 077 15	Big Muddy	A-07	15
Bush Mobile Homes No. 2	NDC 077 20	Big Muddy	A-07	12
Camelot MHP	ND 077 13	Big Muddy	A-07	27
Campbell Hill STW	IIH 077 01	Mississippi South	A-02	5
Carbondale NW STW	NDA 077 01	Big Muddy	A-07	32
Carbondale Southeast	ND 077 04	Big Muddy	A-07	22
Cedar Lane Tr Pk	NDC 077 01	Big Muddy	A-07	7
Chateau Apts Hilton	NDC 077 12	Big Muddy	A-07	20
Chucks Country Estates	ND 077 01	Big Muddy	A-07	21
CIPS-Grand Tower Btm Ash	I 077 03	Mississippi South	B-01	2
CIPS-Grand Tower Dom #005	I 077 02	Mississippi South	B-01	2
CIPS-Grand Tower Fly Ash	I 077 01	Mississippi South	B-01	2
CIPS-Grand Tower NCCW	I 077 04	Mississippi South	B-01	2

WASTEWATER TREATMENT FACILITIES AND MONITORING STATIONS IN JACKSON COUNTY AS SHOWN ON MAP 1

Wastewater Treatment Facility Discharges

Name	Registration No.	Basin	Segment	Map No.
CIPS-Grand Tower Runoff	I 077 05	Mississippi South	B-01	2
Country Circle Tr Park	NC 077 06	Big Muddy	A-04	15
Country Village Apts	ND 077 12	Big Muddy	A-07	26
Country Village Tr Pk	N 077 08	Big Muddy	B-03	8
Crab Orchard Lake MH	ND 077 05	Big Muddy	A-07	23
DeSoto STW	NE 077 02	Big Muddy	A-03	12
Edgewood MH Est-STK	NDA 077 09	Big Muddy	A-07	39
Elkville STW	NEA 077 03	Big Muddy	A-03	11
Elverado Comm Unit School	NC 077 09	Big Muddy	A-04	10
Fairway Mobile Home	N 077 13	Big Muddy	B-03	2
Fairway Vista Murdale WD	NZL 077 02	Big Muddy	B-03	5
Frost Trailer Court	NDC 077 07	Big Muddy	A-07	11
Giant City Campground	NDDA 077 01	Big Muddy	A-06	8
Giant City School 130	NDCA 077 01	Big Muddy	A-07	6
Gorham SD SW	NZH 077 01	Big Muddy	B-03	13

WASTEWATER TREATMENT FACILITIES AND MONITORING STATIONS IN JACKSON COUNTY AS SHOWN ON MAP I

Wastewater Treatment Facility Discharges

Name	Registration No.	Basin	Segment	Map No.
Grand Tower Lagoon	N 077 06	Big Muddy	B-03	14
Green Acres Court Lgn	NDA 077 02	Big Muddy	A-07	38
Green Trees Mobile Home	NC 077 05	Big Muddy	A-04	16
Hillcrest Village STW	N 077 14	Big Muddy	B-03	7
Ill Ctl Gulf RR-Carbondale	ND 077 14	Big Muddy	A-07	42
Jackson Country Club	N 077 03	Big Muddy	B-03	3
Koppers Co. Inc.	NDB 077 10	Big Muddy	A-07	33
Lake Chautauqua Subd	NZL 077 01	Big Muddy	B-03	4
Lake Murphysboro St Pk	N 077 15	Big Muddy	B-03	12
Lakeland Hills Subd	NDC 077 02	Big Muddy	A-07	19
Leady H Development	NZK 077 01	Big Muddy	B-03	9
Lincoln Village	NDB 077 06	Big Muddy	A-07	29
Malibu Village Inc	NDC 077 13	Big Muddy	A-07	9
McBride Tr Park	N 077 10	Big Muddy	B-03	6
McElvain School 186	NC 077 01	Big Muddy	A-04	14
Mona Williams Tr Pk	NCA 077 01	Big Muddy	A-04	12

WASTEWATER TREATMENT FACILITIES AND MONITORING STATIONS IN JACKSON COUNTY AS SHOWN ON MAP I

Wastewater Treatment Facility Discharges

Name	Registration No.	Basin	Segment	Map No.
Mt. Pleasant Tr Pk	NDB 077 07	Big Muddy	A-07	30
Murphysboro #002	N 077 01	Big Muddy	B-03	11
New Thompson Lake Fishing	NDA 077 12	Big Muddy	A-07	41
Orchard Hill Sch. 186	NA 077 01	Big Muddy	A-09	4
Parrish Paul Apartments	NDA 077 08	Big Muddy	A-07	36
Pleasant Hill Tr Pk	NDC 077 06	Big Muddy	A-07	13
Pleasant Valley Tr Pk	NDC 077 04	Big Muddy	A-07	14
Raccoon Valley Tr Pk	NDC 077 19	Big Muddy	A-07	1
Robinson Tr. Park	NDB 077 12	Big Muddy	A-07	31
Roxanne Trailer Court	NDC 077 08	Big Muddy	A-07	10
San Pat Apartments	ND 077 06	Big Muddy	A-07	25
Sav-Mart Dept. Store	ND 077 03	Big Muddy	A-07	24
Seventh Day Adventist Church	ND 077 07	Big Muddy	A-07	40
Shamrock Apartments	NDB 077 09	Big Muddy	A-07	28
SIU-Little Grassy Lake Camp	NDCB 077 02	Big Muddy	A-07	4
SIU-Office & Storage	NDA 077 07	Big Muddy	A-07	35

WASTEWATER TREATMENT FACILITIES AND MONITORING STATIONS IN JACKSON COUNTY AS SHOWN ON MAP I

Wastewater Treatment Facility Discharges

Name	Registration No.	Basin	Segment	Map No.
Southern Ill Airport	N 077 02	Big Muddy	B-03	1
Southern Mobl Home Pk	NDC 077 18	Big Muddy	A-07	18
Suburban Trailer	N 077 11	Big Muddy	B-03	10
Tan-Tara MHP #2	NDA 077 10	Big Muddy	A-07	37
Town-N-Country Trailer Park	NDC 077 14	Big Muddy	A-07	8
Trico Comm. HS 176	IIH 077 02	Mississippi South	A-02	6
Union Hills-Lake Lenore	NDA 077 04	Big Muddy	A-07	34
Union Hills-Lake Lilac	NADA 077 01	Big Muddy	A-09	3
Unity Point School 140	NDC 077 05	Big Muddy	A-07	2
University Hts Mobl Hm	NDC 077 21	Big Muddy	A-07	16
Veach Oil Co	N 077 07	Big Muddy	B-03	18
Warrens Mobile Home	NDC 077 16	Big Muddy	A-07	17
Wildwood Mobile Home	NDC 077 11	Big Muddy	A-07	5

WASTEWATER TREATMENT FACILITIES AND MONITORING STATIONS IN JEFFERSON COUNTY AS SHOWN ON MAP I

Wastewater Treatment Facility Discharges

Name	Registration No.	Basin	Segment	Map No.
Archway Tr Pk Mt Vernon	NZV 081 04	Big Muddy	B-01	2
Bluford Grade School	CAK 081 02	Wabash	A-08	11
Bluford STW	CANB 081 01	Wabash	A-08	9
Country Aire MHP Mt Vernon	NJ 081 10	Big Muddy	B-01	10
Dix Sewage Lagoon	NJ 081 07	Big Muddy	B-01	8
Dodds Comm. Consol. Sch	NJ 081 04	Big Muddy	B-01	14
Farrington CC Sch Dis 99	CAN 081 01	Wabash	A-08	7
Field Comm. Consol Sch	NJ 081 03	Big Muddy	B-01	9
General Tire and Rubber	NJ 081 12	Big Muddy	B-01	13
Grand Prairie School	N 081 02	Big Muddy	B-01	1
Mt. Vernon STW	NJ 081 01	Big Muddy	B-01	11
Precision Products	NJ 081 09	Big Muddy	B-01	12
Rend Lake College	N 081 04	Big Muddy	B-01	15
Waltonville Grade School	NZU 081 01	Big Muddy	B-01	6
Waltonville High School	NZU 081 02	Big Muddy	B-01	7
Webber Twp High School	CAK 081 01	Wabash	A-08	10

WASTEWATER TREATMENT FACILITIES AND MONITORING STATIONS IN JEFFERSON COUNTY AS SHOWN ON MAP 1

Wastewater Treatment Facility Discharges

Name	Registration No.	Basin	Segment	Map No.
Woodlawn Grade School	NK 081 01	Big Muddy	B-01	3
Woodlawn High School	NK 081 02	Big Muddy	B-01	4
Woodlawn STW	N 081 03	Big Muddy	B-01	5

WASTEWATER TREATMENT FACILITIES AND MONITORING STATIONS IN PERRY COUNTY AS SHOWN ON MAP 1

Wastewater Treatment Facility Discharges

Name	Registration No.	Basin	Segment	Map No.
Comm Consol Sch 212	NCK 145 01	Big Muddy	A-04	2
Consol Midw Div 001	NC 145 05	Big Muddy	A-04	7
Consol Midw Div 002	NC 145 07	Big Muddy	A-04	7
Consol Midw Div 004	NC 145 08	Big Muddy	A-04	7
Country Set Inc	NEAB 145 01	Big Muddy	A-03	9
Cutler STW	NCDA 145 01	Big Muddy	A-04	9
Dubois Center Church Camp	NE 145 01	Big Muddy	A-03	3
DuQuoin Packing Co	NEB 145 02	Big Muddy	A-03	8
DuQuoin STW	NEB 145 06	Big Muddy	A-03	7
Lake Sallateeska Camp	NC 145 06	Big Muddy	A-04	3
Mapco Village 1	NEB 145 07	Big Muddy	A-03	6
MCA Records Ind 001	NC 145 04	Big Muddy	A-04	6
MCA Records Ind NCCW 002	NC 145 09	Big Muddy	A-04	6
MCA Records Ind Dom 003	NC 145 10	Big Muddy	A-04	6
Phelps Dodge Corp 001	NEAA 145 02	Big Muddy	A-03	13
Phelps Dodge Corp 002	NEAA 145 03	Big Muddy	A-03	13

WASTEWATER TREATMENT FACILITIES AND MONITORING STATIONS IN PERRY COUNTY AS SHOWN ON MAP 1

Wastewater Treatment Facility Discharges

Name	Registration No.	Basin	Segment	Map No.
Phelps Dodge Corp 003	NEAA 145 04	Big Muddy	A-03	13
Pinckneyville STW	NC 145 01	Big Muddy	A-04	4
Tamaroa Grade School 5	NEB 145 04	Big Muddy	A-03	5
Tamaroa High School 102	NEB 145 03	Big Muddy	A-03	4
US Gypsum Co Perry	NC 145 02	Big Muddy	A-04	5
Willisville STW	IIH 145 01	Mississippi South	A-02	7

WASTEWATER TREATMENT FACILITIES AND MONITORING STATIONS IN RANDOLPH COUNTY AS SHOWN ON MAP I

Wastewater Treatment Facility Discharges

Name	Registration No.	Basin	Segment	Map No.
Baldwin STW	OZC 157 02	Kaskaskia	B-05	15
Central Sch Sparta D 140	OA 157 01	Kaskaskia	B-05	21
Chester STW	I 157 01	Mississippi South	B-01	1
Coulterville STW	NCD 157 01	Big Muddy	A-04	8
Ellis Grove STW	OAA 157 01	Kaskaskia	B-05	22
Evansville	O 157 01	Kaskaskia	B-05	19
Ill Power Co - Baldwin Ash	O 157 03	Kaskaskia	B-05	14
Ill Power Co - Baldwin CWD	O 157 05	Kaskaskia	B-05	11
Ill Power Co - Baldwin Dom	O 157 04	Kaskaskia	B-05	11
Ill Power Co - Baldwin Intake	O 157 06	Kaskaskia	B-05	13
Percy STW	IIHA 157 01	Mississippi South	A-02	3
Prairie Du Rocher	JB 157 01	Mississippi South Central	B-02	9
Red Bud STW	OCA 157 01	Kaskaskia	A-05	14
Roseland Village Tr Pk	OZC 157 05	Kaskaskia	B-05	17

WASTEWATER TREATMENT FACILITIES AND MONITORING STATIONS IN RANDOLPH COUNTY AS SHOWN ON MAP 1

Wastewater Treatment Facility Discharges

Name	Registration No.	Basin	Segment	Map No.
Ruma Convent	OB 157 01	Kaskaskia	B-05	20
Ruma MHP	OB 157 04	Kaskaskia	B-05	24
Sparta Country Club	OZC 157 01	Kaskaskia	B-05	18
Sparta Northtown STW	OZC 157 06	Kaskaskia	B-05	25
Sparta STW	IIK 157 01	Mississippi South	A-02	2
Spartan Printing Div	IIK 157 03	Mississippi South	A-02	1
Steeleville Oxid Pond #002	IIHA 157 04	Mississippi South	A-02	4
Steeleville Trickling Filter #001	IIHA 157 02	Mississippi South	A-02	4
Tilden STW	OZC 157 03	Kaskaskia	B-05	16
US Engr Kask Lock & Dam	O 157 02	Kaskaskia	B-05	23

WASTEWATER TREATMENT FACILITIES AND MONITORING STATIONS IN UNION COUNTY AS SHOWN ON MAP I

Wastewater Treatment Facility Discharges

Name	Registration No.	Basin	Segment	Map No.
Anna STW	ADX 181 01	Ohio	B-03	26
Cobden STW	ADX 181 02	Ohio	B-03	25
Dongola Grade School	IXJ 181 02	Mississippi South	A-01	3
Farm Labor Assoc. Cobden	NAFA 181 02	Big Muddy	A-09	2
Giant City Lodge	NDCB 181 --	Big Muddy	A-07	3
Jonesboro Lagoon	ICD 181 02	Mississippi South	B-01	6
South Pass Products Inc	NAFA 181 01	Big Muddy	A-09	1
Trans Dept I-57 East RA	AD 181 01	Ohio	B-03	28
Trans Dept I-57 West RA	AD 181 02	Ohio	B-03	27
Union Co. Hsng-Dongola A	IXJA 181 01	Mississippi South	A-01	4
Union Co. Hsng-Dongola B	IXJ 181 01	Mississippi South	A-01	2
Wolf Lake-Shawnee Val Wtr	IC 181 01	Mississippi South	B-01	3

WASTEWATER TREATMENT FACILITIES AND MONITORING STATIONS IN WASHINGTON COUNTY AS SHOWN ON MAP I

Wastewater Treatment Facility Discharges

Name	Registration No.	Basin	Segment	Map No.
Ashley SD N Lgn 001	NE 189 03	Big Muddy	A-03	1
Ashley SD S Lgn	NE 189 01	Big Muddy	A-03	2
Dept. Conserv-Washn Co	NCN 189 01	Big Muddy	A-04	1
Hoyleton STW	OJAD 189 01	Kaskaskia	A-02	22
Ill. Ctl. Gulf Lag 1 North	OJCB 189 02	Kaskaskia	A-02	16
Ill. Ctl. Gulf Lag 2 South	OJCC 189 01	Kaskaskia	A-02	19
Irvington SD	OJC 189 01	Kaskaskia	A-02	20
Johannisburg School	OEA 189 01	Kaskaskia	B-05	4
Kirchoefer Subd.	OJAE 189 02	Kaskaskia	A-02	23
Nashville STW	OJAE 189 03	Kaskaskia	A-02	24
Oakdale School 1	OG 189 01	Kaskaskia	B-05	3
Okawville STW	OZH 189 01	Kaskaskia	B-05	2
Wamac STW	OJCB 189 01	Kaskaskia	A-02	17

WASTEWATER TREATMENT FACILITIES AND MONITORING STATIONS IN WILLIAMSON COUNTY AS SHOWN ON MAP I

Wastewater Treatment Facility Discharges

Name	Registration No.	Basin	Segment	Map No.
Allen Ind Inc-Herrin	NFA 199 01	Big Muddy	B-02	17
Cambria STW	N 199 07	Big Muddy	B-02	19
Carterville STW	ND 199 02	Big Muddy	A-06	4
Colp STW	NF 199 07	Big Muddy	B-02	16
Crab Orchard Hi & Grd Sch	NDA 199 01	Big Muddy	A-05	1
Crab Orchard Refuge	ND 199 03	Big Muddy	A-06	2
Crainville STW	NF 199 06	Big Muddy	B-02	14
Creal Springs STW	ATHH 199 01	Ohio	A-03	5
Devil's Kitchen Lak Cpgrd	NDDA 199 01	Big Muddy	A-06	10
Energy STW	NF 199 02	Big Muddy	B-02	15
Ernfelt Home	NGA 199 02	Big Muddy	A-02	4
Greenbriar Trustee	ND 199 09	Big Muddy	A-06	5
Herrin STW	NF 199 09	Big Muddy	B-02	13
Hickory Leaf Tr. Pk.	ND 199 05	Big Muddy	A-06	3
Hoc Briar Tr. Pk.	ND 199 26	Big Muddy	A-06	12
Hughes-Crab Orchard E	ND 199 23	Big Muddy	A-06	11

WASTEWATER TREATMENT FACILITIES AND MONITORING STATIONS IN WILLIAMSON COUNTY AS SHOWN ON MAP I

Wastewater Treatment Facility Discharges

Name	Registration No.	Basin	Segment	Map No.
Hurst STW	N 199 02	Big Muddy	B-02	18
Johnston City STW	NGA 199 04	Big Muddy	A-02	3
Lake of Egypt CCLB	ATHQ 199 01	Ohio	A-03	1
Lakeview Farm Estates	NDD 199 01	Big Muddy	A-06	7
Lincoln Grade Sch 1	NGA 199 --	Big Muddy	A-02	2
Little Grassy Lake Cpgrd	NDDA 199 02	Big Muddy	A-06	9
Logan J.A. Jr. College	ND 199 19	Big Muddy	A-06	6
Marion STW	ND 199 01	Big Muddy	A-05	5
Marion STW NW 002	ND 199 17	Big Muddy	A-05	3
Marion STW SW 003	ND 199 06	Big Muddy	A-05	4
Southern IL PWR Coop-001	ATH 199 07	Ohio	A-03	3
Southern IL PWR Coop-002	ATHJ 199 01	Ohio	A-03	3
Southern IL PWR Coop-003	ATHQ 199 02	Ohio	A-03	2
Southern IL PWR Coop-Dom	ATHJ 199 --	Ohio	A-03	9
Tom's Bar-B-Q	ND 199 22	Big Muddy	A-05	2
Williamson Co. Airport	NDE 199 01	Big Muddy	A-06	1

POINT SOURCE INFORMATION

NAME Akin Sch-Dist 91 Akin

MAP REFERENCE NO: 1
CONTROL NO: 1003
REGISTRATION NO: NHG 055 01
COUNTY: Franklin

BASIN: Big Muddy
SEGMENT: A-01

RECEIVING STREAM: Akin Creek to Middle Fork to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Septic Tank
Sand Filter

PRESENT EFFLUENT QUALITY (MG/L):
BOD TSS NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .002

AVERAGE FLOW (MGD): .0004

SEWER TYPE:

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0043214
EFFECTIVE DATE: 7/30/75
INTERIM LIMIT. DATE: 8/31/76
EXPIRATION DATE: 1/31/79

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)	10	4
TSS (mg/l)	20	5
F COLI/100 ML		200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201:
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Franklin C

COMPLIANCE SCHEDULE

Final plans	2/1/76
Begin const.	3/1/76
Comp. const.	8/1/76
Op. level	9/1/76

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

OPERATOR CERTIFICATION

PRESENT: NEEDED:

POINT SOURCE INFORMATION

NAME Benton STW SE

MAP REFERENCE NO: 2
CONTROL NO: 1049
REGISTRATION NO: NH 055 07
COUNTY: Franklin

BASIN: Big Muddy
SEGMENT: A-01

RECEIVING STREAM: Unnamed tributary to Middle Fork to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE:

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	19	53	9.74

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:
F.C.

DESIGN AVERAGE FLOW (MGD): .06

AVERAGE FLOW (MGD): .023

SEWER TYPE: Separate

OVERFLOW FREQUENCY: Frequent

PERMIT INFORMATION

NPDES #IL 0047166
EFFECTIVE DATE: 7/30/75
INTERIM LIMIT. DATE: *
EXPIRATION DATE: 6/30/77

*Dependent on auxiliary funding

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)	40	4
TSS (mg/l)	60	5
F COLI/100 ML		200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Benton FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201): Benton

FPA MAP REFERENCE: Franklin B

COMPLIANCE SCHEDULE

Submit Step I app. by 9/30/75
Submit facilities plan and app. for Step II grant as specified by Step I grant

GRANT INFORMATION

PROJECT DESCRIPTION: 4810

PROJECT NO: C17 1943

TOTAL COST:

PRIORITY RANK: FY 76 .772

COMMENTS

This plant is the smaller of two Benton STW's

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

POINT SOURCE INFORMATION

NAME Logan School 110

MAP REFERENCE NO: 4
CONTROL NO: 1375
REGISTRATION NO: NHB 055 01
COUNTY: Franklin

BASIN: Big Muddy
SEGMENT: A-01

RECEIVING STREAM: Ewing Creek to Middle Fork to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Septic Tank
Sand Filter

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	11	2	18.5

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:
F.C.

DESIGN AVERAGE FLOW (MGD): .001

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: No problem

PERMIT INFORMATION

NPDES #IL 0042536
EFFECTIVE DATE: 7/9/75
INTERIM LIMIT. DATE: 1/31/76
EXPIRATION DATE: 12/31/79

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)	10	4
TSS (mg/l)	12	5
F COLI/100 ML		200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201:
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Franklin B

COMPLIANCE SCHEDULE

Final plans	7/1/75
Begin const.	8/1/75
Comp. const.	1/1/76
Op. level	2/1/76

GRANT INFORMATION

PROJECT DESCRIPTION:

PROJECT NO:

TOTAL COST:

PRIORITY RANK:

COMMENTS

77 Students

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Sullivan-Rend Lake Tr. Pk.

MAP REFERENCE NO: 3
CONTROL NO: 1668
REGISTRATION NO: NH 055 04
COUNTY: Franklin

BASIN: Big Muddy

SEGMENT: A-01

RECEIVING STREAM: Ditch to Middle Fork to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 1-cell lagoon

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	18	44	1.97

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

F.C.

DESIGN AVERAGE FLOW (MGD): .012

AVERAGE FLOW (MGD): .005

SEWER TYPE: Separate

OVERFLOW FREQUENCY: Frequent

PERMIT INFORMATION

NPDES #IL 0047694
EFFECTIVE DATE: 7/9/75
INTERIM LIMIT. DATE: 9/1/76
EXPIRATION DATE: 9/1/78

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD(mg/l)	50	4
TSS (mg/l)	50	5
F COLI/100 ML	200	200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Benton FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201): Benton

FPA MAP REFERENCE: Franklin B

COMPLIANCE SCHEDULE

Final plans	9/1/75
Begin const.	12/1/75
Comp. const.	8/1/76
Op. Level	7/1/76

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Thompsonville STW

MAP REFERENCE NO. 5
CONTROL NO: 1599
REGISTRATION NO: NHBB 055 01
COUNTY: Franklin

BASIN: Big Muddy
SEGMENT: A-01

RECEIVING STREAM: Unnamed Creek to Stevens Ck. to Ewing Ck. to Middle Fork to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Septic Tank
Recirculating Sand Filter
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):
(see comments)

BOD	TSS	NH_3-N
11	2	18.5

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

F.C.

DESIGN AVERAGE FLOW (MGD): .068

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: No problem

PERMIT INFORMATION

NPDES #IL 0031399
EFFECTIVE DATE: 7/20/75
INTERIM LIMIT. DATE:
EXPIRATION DATE: 10/31/76

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		10
TSS (mg/l)		12
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Thompsonville FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Franklin B

GRANT INFORMATION

PROJECT DESCRIPTION:	PROJECT NO:
38102123	C170615
22	C171671

TOTAL COST:	PRIORITY RANK:
$266,500	FY 76 268
177,900	FY76 963

COMMENTS

Only one sample for BOD, TSS, NH_3-N

Pfeffer exemption granted 10/28/74

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME West Frankfort STW

MAP REFERENCE NO: 6
CONTROL NO: 1657
REGISTRATION NO: NH 055 01
COUNTY: Franklin

BASIN: Big Muddy
SEGMENT: A-01

RECEIVING STREAM: Unnamed tributary to Middle Fork to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Primary, Trickling Filter
Tertiary Lagoon
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	52	51	15.67

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

F.C. Hg (1 of 3 samples)

DESIGN AVERAGE FLOW (MGD): 1.4

AVERAGE FLOW (MGD): .800

SEWER TYPE: Separate

OVERFLOW FREQUENCY: Frequent

PERMIT INFORMATION

NPDES #IL 0031704
EFFECTIVE DATE: 6/30/75
INTERIM LIMIT, DATE:
EXPIRATION DATE: 12/31/78

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		10
TSS (mg/l)		12
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: West Frankfort FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201): West Frankfort

FPA MAP REFERENCE: Franklin B

COMMENTS

Pfeffer exemption granted 11/13/74

GRANT INFORMATION

PROJECT DESCRIPTION:

PROJECT NO:

TOTAL COST:

PRIORITY RANK:

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

POINT SOURCE INFORMATION

NAME Cable Service Co
W. Frank

MAP REFERENCE NO: 1
CONTROL NO: 1083
REGISTRATION NO: NG 055 --
COUNTY: Franklin

BASIN: Big Muddy

SEGMENT: A-02

RECEIVING STREAM: Pond to Pond Creek, Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 3 Stage Lagoon
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	10	24	.35

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .002

AVERAGE FLOW (MGD):

SEWER TYPE:

OVERFLOW FREQUENCY: Never

PERMIT INFORMATION

NPDES #IL 0044652
EFFECTIVE DATE: 7/23/75
INTERIM LIMIT, DATE: 6/30/76
EXPIRATION DATE: 5/1/78

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)	30	4
TSS (mg/l)	30	5
F COLI/100 ML	200	200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: West Frankfort FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201): West Frankfort

FPA MAP REFERENCE: Franklin A

COMPLIANCE SCHEDULE

Final plans	9/1/75
Begin const.	12/1/75
Comp. const.	6/1/76
Op. level	6/30/76

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

Was NGA 055 01

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Ernfelt Home

MAP REFERENCE NO: 4
CONTROL NO: 1216
REGISTRATION NO: NGA 199 --
COUNTY: Williamson

BASIN: Big Muddy
SEGMENT: A-02

RECEIVING STREAM: Unnamed tributary to Lake Creek to Pond Ck, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 3 Septic Tanks
Single Cell Lagoon

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	38	153	3.84

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:
F.C.

DESIGN AVERAGE FLOW (MGD): 0.005

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: No problem

PERMIT INFORMATION

NPDES #IL Application not Filed
EFFECTIVE DATE:
INTERIM LIMIT. DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/1)		4
TSS (mg/1)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Johnston City FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201): Johnston City

FPA MAP REFERENCE: Williamson C

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

Was NGA 195 02

OPERATOR CERTIFICATION

PRESENT: NEEDED:

POINT SOURCE INFORMATION

NAME Johnston City STW

MAP REFERENCE NO: 3
CONTROL NO: 1321
REGISTRATION NO: NGA 199 04
COUNTY: Williamson

BASIN: Big Muddy
SEGMENT: A-02

RECEIVING STREAM: Lake Creek to Pond Creek to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Single Cell Lagoon

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	21	27	7

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

F.C.

DESIGN AVERAGE FLOW (MGD): 0.4

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: no problem

PERMIT INFORMATION

NPDES #IL0029301
EFFECTIVE DATE: 1/15/75
INTERIM LIMIT. DATE: 6/30/76
EXPIRATION DATE: 5/31/78

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)	50	10
TSS (mg/l)	80	12
F COLI/100 ML		200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Johnston City FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201): Johnston City

FPA MAP REFERENCE: Williamson C

COMPLIANCE SCHEDULE

Final plans 3/1/75
Begin const. 7/1/75
Comp. const. 6/1/76
Op. level 6/30/76

GRANT INFORMATION

PROJECT DESCRIPTION:	PROJECT NO:
4810	C170989
22	C172152

TOTAL COST:	PRIORITY RANK:
$378,000	FY 76 63
	FY 76 1085

COMMENTS

Pfeffer exemption granted 8/28/74

OPERATOR CERTIFICATION

PRESENT: NEEDED:

POINT SOURCE INFORMATION

NAME Lincoln Grade Sch. 1

MAP REFERENCE NO: 2
CONTROL NO: 1366
REGISTRATION NO: NGA 199 --
COUNTY: Williamson

BASIN: Big Muddy
SEGMENT: A-02

RECEIVING STREAM: Lake Creek to Pond Creek, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Imhoff Tank
Intermittent Sand Filter
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	265	116	14.9

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD) 0.004

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: No problem

PERMIT INFORMATION

NPDES #IL 0042544
EFFECTIVE DATE: 6/30/75
INTERIM LIMIT. DATE: 12/01/75
EXPIRATION DATE: 12/31/79

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)	25	4
TSS (mg/l)	30	5
F COLI/100 ML	200	200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201:
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Williamson C

COMPLIANCE SCHEDULE

Final plans	5/1/75
Begin const.	6/1/75
Comp. const.	11/1/75
Op. level	12/1/75

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

Was NG 199 01

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Ashley SD N Lgn 001

MAP REFERENCE NO: 1
CONTROL NO: 2050
REGISTRATION NO: NE 189 03
COUNTY: Washington

BASIN: Big Muddy
SEGMENT: A-03

RECEIVING STREAM: Ditch to Little Muddy River to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 1-Cell lagoon
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	9.3	28	4.7

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:
F.C.

DESIGN AVERAGE FLOW (MGD): 0.144

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0027537
EFFECTIVE DATE: 11/15/74
INTERIM LIMIT. DATE: *
EXPIRATION DATE: 3/31/77

*Depending on auxiliary funding

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD(mg/l)	60	4
TSS(mg/l)	75	5
F COLI/100 ML		200
NH_3-N	rule	203 (f)

PLANNING AREAS

PLANNING AREA
201: Ashley FPA
208:

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Washington A

COMPLIANCE SCHEDULE

Final plans 3 mos after Step II
Begin const. 3 mos. after Step III
Comp. const. 12 mos after begin.
Op. level 1 mo. after comp.

GRANT INFORMATION

PROJECT DESCRIPTION: 11011

PROJECT NO: C170945

TOTAL COST: $251,800

PRIORITY RANK: FY 76 617

COMMENTS

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

POINT SOURCE INFORMATION

NAME Ashley SD S Lgn

MAP REFERENCE NO: 2
CONTROL NO: 2049
REGISTRATION NO: NE 189 01
COUNTY: Washington

BASIN: Big Muddy
SEGMENT: A-03

RECEIVING STREAM: Unnamed ditch to Little Muddy River to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 1-Cell lagoon

PRESENT EFFLUENT QUALITY (MG/L):

	BOD	TSS	NH_3-N
1974 MEAN	37	35	8.5

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: F.C.

DESIGN AVERAGE FLOW (MGD): 0.144

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0027537
EFFECTIVE DATE: 12/15/74
INTERIM LIMIT, DATE: *
EXPIRATION DATE: 3/31/77

*Depending on auxiliary funding

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/1)	60	4
TSS (mg/1)	75	5
F COLI/100 ML		200
NH_3-N		1.5

PLANNING AREAS

PLANNING AREA
201: Ashley FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Washington A

COMPLIANCE SCHEDULE

Final plans 3 mos. after Step II
Begin const. 3 mos after Step III
Comp. const. 12 mos. after begin.
Op. level 1 mo. after comp.

GRANT INFORMATION

PROJECT DESCRIPTION: 11011

PROJECT NO: C170945

TOTAL COST: $251,800

PRIORITY RANK: FY 76 617

COMMENTS

proposed facility: 3-cell lagoon incorporating existing 2 lagoons.

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

POINT SOURCE INFORMATION

NAME Country Set Inc.

MAP REFERENCE NO: 9
CONTROL NO: 1152
REGISTRATION NO: NEAB 145 01
COUNTY: Perry

BASIN: Big Muddy
SEGMENT: A-03

RECEIVING STREAM: Granny's Branch to Six Mile Creek, to Little Muddy R. to Big Muddy R.

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Septic Tank
Intermittent Sand Filter

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	15	20	10.21

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: F.C.

DESIGN AVERAGE FLOW (MGD): .005

AVERAGE FLOW (MGD):

SEWER TYPE:

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL Application not filed
EFFECTIVE DATE:
INTERIM LIMIT. DATE:
EXPIRATION DATE:
Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		4
TSS (mg/l)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Duquoin FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Perry B

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

Dress factory, 360 employees

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS 1/23/76

POINT SOURCE INFORMATION

NAME DeSoto STW

MAP REFERENCE NO: 12
CONTROL NO: 1174
REGISTRATION NO: NE 077 02
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: A-03

RECEIVING STREAM: Unnamed tributary to Little Muddy to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 1 Stage Lagoon

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	36	106	6.25

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: F.C.

DESIGN AVERAGE FLOW (MGD): .152

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: Frequent >5 times yearly

PERMIT INFORMATION

NPDES #IL 0024937
EFFECTIVE DATE: 4/26/74
INTERIM LIMIT. DATE: *
EXPIRATION DATE: 2/28/77

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)	40	4
TSS (mg/l)	80	5
F COLI/100 ML	200	200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: DeSoto FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson C

COMPLIANCE SCHEDULE

Final plans 12 mos after Step II
Begin const. 6 mos. after Step II
Op. level 18 mos. after begin.

GRANT INFORMATION

PROJECT DESCRIPTION: 4810

PROJECT NO: C171072

TOTAL COST: $323,900

PRIORITY RANK: FY 76 670

COMMENTS

Permitee requestd modification of compliance schedule
(public notice 3/27/75)

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Dubois Center Church Camp
MAP REFERENCE NO: 3
CONTROL NO: 2214
REGISTRATION NO: NE 145 01
COUNTY: Perry
BASIN: Big Muddy
SEGMENT: A-03

RECEIVING STREAM: Natural drainage to Little Muddy to Big Muddy River
STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Activated sludge (Extended aeration)
Sand Filter
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):
BOD TSS NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .01

AVERAGE FLOW (MGD):

SEWER TYPE:

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL Application not filed
EFFECTIVE DATE:
INTERIM LIMIT, DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		4
TSS (mg/l)		5
F COLI/100 ML		200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201:
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Perry B

COMPLIANCE SCHEDULE

COMMENTS

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

POINT SOURCE INFORMATION

NAME DuQuoin Packing Co.

MAP REFERENCE NO: 8
CONTROL NO: 1192
REGISTRATION NO: NEB 145 02
COUNTY: Perry

BASIN: Big Muddy
SEGMENT: A-03

RECEIVING STREAM: Subsurface

STREAM 7-DAY 10-YEAR LOW FLOW (CFS):

FACILITY INFORMATION

TREATMENT TYPE: Lagoon System
Spray Irrigation

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): 0.428

AVERAGE FLOW (MGD): 0.126

SEWER TYPE:

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL0035033
EFFECTIVE DATE: 7/17/75
INTERIM LIMIT. DATE: 9/30/76
EXPIRATION DATE: 6/30/77

EFFLUENT LIMITATIONS: 001

	INTERIM	FINAL
BOD (mg/l)	Monitor only	
TSS		
F COLI/100 ML		
NH_3-N		
TDS	rule 203	

PLANNING AREAS

PLANNING AREA
201: DuQuoin FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Perry B

COMPLIANCE SCHEDULE

Final plans approved	9/30/75
Begin const.	12/31/75
Comp. const.	8/31/76
Op. level	10/ 1/76

GRANT INFORMATION

PROJECT DESCRIPTION:

PROJECT NO:

TOTAL COST:

PRIORITY RANK:

COMMENTS

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME DuQuoin STW

MAP REFERENCE NO: 7
CONTROL NO: 1184
REGISTRATION NO: NEB 145 06
COUNTY: Perry

BASIN: Big Muddy
SEGMENT: A-03

RECEIVING STREAM: Reese Creek, to Little Muddy R., to Big Muddy River.

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Pretreatment, Primary clarifiers Trickling filter, Final tanks, Tertiary clarifiers and filters Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

	BOD	TSS	NH_3-N
1974 MEAN	69	57	8.49

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD):

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: Frequent

PERMIT INFORMATION

NPDES #IL 0028517
EFFECTIVE DATE: 3/25/75
INTERIM LIMIT. DATE: 4/25/75
EXPIRATION DATE: 2/28/76

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)	50	4
TSS (mg/l)	80	5
F COLI/100 ML		200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: DuQuoin FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Perry B

COMPLIANCE SCHEDULE

Comp. const.	3/31/75
Op. level	4/30/75

GRANT INFORMATION

PROJECT DESCRIPTION: 22

PROJECT NO: C171196

TOTAL COST: $418,400

PRIORITY RANK: FY76 1081

COMMENTS

plant improvements under const.

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Elkville STW

MAP REFERENCE NO: 11 BASIN: Big Muddy
CONTROL NO: 1205
REGISTRATION NO: NEA 077 03
COUNTY: Jackson SEGMENT: A-03

RECEIVING STREAM: Intermittent Ck, Six Mile Ck., to Little Muddy R., to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Imhoff
Trickling Filter

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	46	32	5.73

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: F.C.

DESIGN AVERAGE FLOW (MGD): .13

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: Frequent

PERMIT INFORMATION

NPDES #IL 0028703
EFFECTIVE DATE: 3/28/75
INTERIM LIMIT. DATE: *
EXPIRATION DATE: 5/15/77

*Dependent on auxiliary funding

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)	40	4
TSS (mg/l)	45	5
F COLI/100 ML		200
NH_3-N	rule	203

PLANNING AREAS

PLANNING AREA
201: Elkville FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201): Elkville

FPA MAP REFERENCE: Jackson B

COMPLIANCE SCHEDULE

Final plans 6 mos. after Step II
Begin const. 3 mos. after Step III
Op. level 1 mo. after comp.

GRANT INFORMATION

PROJECT DESCRIPTION: 49101821

PROJECT NO: C17 1198

TOTAL COST: $777,000

PRIORITY RANK: FY 76 345

COMMENTS

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Mapco Village I

MAP REFERENCE NO: 6
CONTROL NO: 1381
REGISTRATION NO: NEB 145 07
COUNTY: Perry

BASIN: Big Muddy
SEGMENT: A-03

RECEIVING STREAM: Ditch to unnamed trib. to Reese Creek to Little Muddy R., to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Septic Tank
Sand Filter
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):
BOD TSS NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD):

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: No problem

PERMIT INFORMATION

NPDES #IL Application not filed
EFFECTIVE DATE:
INTERIM LIMIT, DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		4
TSS (mg/l)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: DuQuoin FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Perry B

COMMENTS

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Mulkeytown School 32

MAP REFERENCE NO: 10
CONTROL NO: 1426
REGISTRATION NO: NE 055 01
COUNTY: Franklin

BASIN: Big Muddy
SEGMENT: A-03

RECEIVING STREAM: Ditch to Little Muddy River, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Imhoff
Sand Filter

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	13	74	15.7

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .002

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: No problem

PERMIT INFORMATION

NPDES #IL Application not filed
EFFECTIVE DATE:
INTERIM LIMIT, DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/1)		4
TSS (mg/1)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201:
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Franklin A

COMMENTS

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

POINT SOURCE INFORMATION

NAME Phelps Dodge Corp - 001

MAP REFERENCE NO: 13
CONTROL NO: 1495
REGISTRATION NO: NEAA 145 02
COUNTY: Perry

BASIN: Big Muddy
SEGMENT: A-03

RECEIVING STREAM: Half Mile Ck. to Six Mile Ck. to Little Muddy R. to Big Muddy R.

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Activated sludge
Tertiary filters
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 mean	BOD	TSS	NH_3-N
	32	73	10.92

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD): .005

AVERAGE FLOW (MGD):

SEWER TYPE:

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0000744
EFFECTIVE DATE: 7/9/75
INTERIM LIMIT, DATE:
EXPIRATION DATE: 8/31/77

EFFLUENT LIMITATIONS:

001

	INTERIM	FINAL
BOD(mg/1)		4
TSS(mg/1)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Duquoin FPA
208: GERP & DC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Perry B

GRANT INFORMATION

PROJECT DESCRIPTION:

PROJECT NO:

TOTAL COST:

PRIORITY RANK:

COMMENTS

001 - Sanitary Waste

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Phelps Dodge Corp - 002

MAP REFERENCE NO: 13
CONTROL NO: 1495
REGISTRATION NO: NEAA 145 03
COUNTY: Perry

BASIN: Big Muddy
SEGMENT: A-03

RECEIVING STREAM: Half Mile Ck. to Six Mile Ck. to Little Muddy R. to Big Muddy R.

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE:

PRESENT EFFLUENT QUALITY (MG/L):
BOD TSS NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD):

AVERAGE FLOW (MGD):

SEWER TYPE:

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0000744
EFFECTIVE DATE: 7/9/75
INTERIM LIMIT, DATE:
EXPIRATION DATE: 8/31/77

EFFLUENT LIMITATIONS:

002

	INTERIM	FINAL
BOD		
TSS(mg/l)		15(DM)
F COLI/100 ML		
NH_3-N		
Cu (tot)(mg/l)		1.0(DM)
TDS		Rule 203
Temp		Rule 203

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Duquoin FPA
208: GERP & DC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Perry B

COMMENTS

002 - Overflow from cooling water pond

GRANT INFORMATION

PROJECT DESCRIPTION:

PROJECT NO:

TOTAL COST:

PRIORITY RANK:

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Phelps Dodge Corp - 003

MAP REFERENCE NO: 13
CONTROL NO: 1495
REGISTRATION NO: NEAA 145 04
COUNTY: Perry

BASIN: Big Muddy
SEGMENT: A-03

RECEIVING STREAM: Half Mile Ck. to Six Mile Ck. to Little Muddy R. to Big Muddy R.

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE:

PRESENT EFFLUENT QUALITY (MG/L):
BOD TSS NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD):

AVERAGE FLOW (MGD):

SEWER TYPE:

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0000744
EFFECTIVE DATE: 7/9/75
INTERIM LIMIT, DATE:
EXPIRATION DATE: 8/31/77

EFFLUENT LIMITATIONS:

003

	INTERIM	FINAL
BOD		
TSS (mg/l)		15(DM)
F COLI/100 ML		
NH_3-N		
TDS		Rule 203
Temp		Rule 203

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Duquoin FPA
208: GERP & DC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Perry B

GRANT INFORMATION

PROJECT DESCRIPTION:

PROJECT NO:

TOTAL COST:

PRIORITY RANK:

COMMENTS

003 - Boiler blowdown & air compressor cooling water

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Tamaroa Grade School 5

MAP REFERENCE NO: 5
CONTROL NO: 1585
REGISTRATION NO: NEB 145 04
COUNTY: Perry

BASIN: Big Muddy
SEGMENT: A-03

RECEIVING STREAM: Reese Creek, to Little Muddy, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Imhoff Tank
Intermittent Sand Filter

PRESENT EFFLUENT QUALITY (MG/L):
BOD TSS NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .003

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: No problem

PERMIT INFORMATION

NPDES #IL 0042528
EFFECTIVE DATE: 7/9/75
INTERIM LIMIT. DATE: 10/31/75
EXPIRATION DATE: 12/31/79

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/1)	4	4
TSS (mg/1)	5	5
F COLI/100 ML		200
NH_3-N		1.5

PLANNING AREAS

PLANNING AREA
201: Tamaroa FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Perry B

COMPLIANCE SCHEDULE

Final plans	7/15/75
Begin const.	9/ 1/75
Comp. const.	10/15/75
Op. level	11/ 1/75

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

This plant will be eliminated when Tamoroa plant is built.

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Tamaroa High School 102

MAP REFERENCE NO: 4
CONTROL NO: 1583
REGISTRATION NO: NEB 145 03
COUNTY: Perry

BASIN: Big Muddy
SEGMENT: A-03

RECEIVING STREAM: Reese Creek, to Little Muddy, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Septic Tank
Intermittent Sand Filter

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	7	685	11.45

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: F.C.

DESIGN AVERAGE FLOW (MGD): .002

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: No problem

PERMIT INFORMATION

NPDES #IL 0042510 (draft)
EFFECTIVE DATE:
INTERIM LIMIT. DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/1)		4
TSS (mg/1)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Tamaroa FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Perry B

GRANT INFORMATION

PROJECT DESCRIPTION:

PROJECT NO:

TOTAL COST:

PRIORITY RANK:

COMMENTS

Plant will be eliminated when Tamaroa plant is built

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Ava Stw

MAP REFERENCE NO: 11 BASIN: Big Muddy
CONTROL NO: 1036
REGISTRATION NO: NCB 077 01
COUNTY: Jackson SEGMENT: A-04

RECEIVING STREAM: Unnamed tributary to Rattlesnake Creek, to Beaucoup Ck., to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 1 stage lagoon

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	79	43	4.03

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .077

AVERAGE FLOW (MGD): .050

SEWER TYPE: Separate

OVERFLOW FREQUENCY: >5 times yearly

PERMIT INFORMATION

NPDES #IL 0027588
EFFECTIVE DATE: 4/27/75
INTERIM LIMIT, DATE: *
EXPIRATION DATE: 1/31/77

*Dependent on auxiliary funding

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/1)	50	4
TSS (mg/1)	50	5
F COLI/100 ML		200
NH_3-N	rule	203

PLANNING AREAS

PLANNING AREA
201: Ava FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson A

COMPLIANCE SCHEDULE

Final plans 3 mos after Step II
Begin const. 3 mos. after Step III
Comp. const. 12 mos. after begin.
Op. level 1 mo. after comp.

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Community Consol. Sch. 212

MAP REFERENCE NO: 2
CONTROL NO: 1147
REGISTRATION NO: NCK 145 01
COUNTY: Perry

BASIN: Big Muddy
SEGMENT: A-04

RECEIVING STREAM: Subsurface

STREAM 7-DAY 10-YEAR LOW FLOW (CFS):

FACILITY INFORMATION

TREATMENT TYPE: Septic Tank
Intermittent Sand Filter

PRESENT EFFLUENT QUALITY (MG/L):
BOD TSS NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD):

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: No problem

PERMIT INFORMATION

NPDES #IL
EFFECTIVE DATE:
INTERIM LIMIT, DATE:
EXPIRATION DATE:

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD		
TSS		
F COLI/100 ML		
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201:
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Perry A

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

NPDES is not needed- no surface discharge

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Consol Midw. Div. 001

MAP REFERENCE NO: 7
CONTROL NO: 1148
REGISTRATION NO: NC 145 05
COUNTY: Perry

BASIN: Big Muddy
SEGMENT: A-04

RECEIVING STREAM: Beaucoup Ck. to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Septic Tank
Recirculating Sand Filter
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	15	50	4.63

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): 0.003

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: No problem

PERMIT INFORMATION

NPDES #IL 0026417
EFFECTIVE DATE: 3/13/75
INTERIM LIMIT, DATE:
EXPIRATION DATE: 2/28/80

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/1)		4
TSS (mg/1)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201:
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Perry A

COMMENTS

Pfeffer exemption granted 5/15/75

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Consol Midw. Division 002

MAP REFERENCE NO: 7
CONTROL NO: 1149
REGISTRATION NO: NC 145 07
COUNTY: Perry

BASIN: Big Muddy
SEGMENT: A-04

RECEIVING STREAM: Beaucoup Ck., to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 1-cell lagoon

PRESENT EFFLUENT QUALITY (MG/L):
BOD TSS NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD):

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: No problem

PERMIT INFORMATION

NPDES #IL 0026395
EFFECTIVE DATE: 6/20/75
INTERIM LIMIT. DATE: 7/1/77
EXPIRATION DATE: 4/30/80

EFFLUENT LIMITATIONS:
002 (CS-2)

	INTERIM	FINAL
BOD		
TSS (mg/l)	30	rule 203
F COLI/100 ML		
NH_3-N		
Fe (tot) (mg/l)	4	4
Alkalinity > Acidity		
TDS	750 (net) DM	750(net) DM

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201:
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Perry A

COMMENTS

002 (CS-2)

Firewater holding pond

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Consol Midw. Division 004 MAP REFERENCE NO: 7 BASIN: Big Muddy
CONTROL NO: 1149
REGISTRATION NO: NC 145 08
COUNTY: Perry SEGMENT: A-04

RECEIVING STREAM: Beaucoup Ck. to Big Muddy River STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 1- Cell Lagoon

PRESENT EFFLUENT QUALITY (MG/L):
BOD TSS NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD):

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: No problem

PERMIT INFORMATION

NPDES #IL 0026395
EFFECTIVE DATE: 6/20/75
INTERIM LIMIT, DATE: 7/1/77
EXPIRATION DATE: 4/30/80

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD		
TSS (mg/l)	15(DM)	rule 203
F COLI/100 ML		
NH_3-N		
Fe(tot) (mg/l)	2(DM)	2(DM)
Alkalinity>Acidity		
TDS (mg/l)	750 Net(DM)	750 NET (DM)
Oil & Grease	15 (DM)	15 (DM)

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201:
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Perry A

COMMENTS

004-Truck Wash Holding Pond goes to Firewater Holding Pond

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

POINT SOURCE INFORMATION

NAME Coulterville STW

MAP REFERENCE NO: 8
CONTROL NO: 1153
REGISTRATION NO: NCD 157 01
COUNTY: Randolph

BASIN: Big Muddy

SEGMENT: A-04

RECEIVING STREAM: Galum Creek to Beaucoup Creek, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 1-Cell Lagoon
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	16	75	2.82

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): 0.024

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0021458
EFFECTIVE DATE: 4/26/74
INTERIM LIMIT. DATE: *
EXPIRATION DATE: 2/28/77

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)	60	4
TSS (mg/l)	190	5
F COLI/100 ML	200	200
NH_3-N	rule 203	

PLANNING AREAS

PLANNING AREA
201: Coulterville FPA
208:

DESIGNATED LEAD AGENCY (201): Coulterville

FPA MAP REFERENCE: Randolph C

COMPLIANCE SCHEDULE
Final plans 12 mos after Step II
Begin const. 6 mos after Step III
Op. level 13 mos after begin.

GRANT INFORMATION

PROJECT DESCRIPTION: 4810

PROJECT NO: C171065

TOTAL COST: $257,500

PRIORITY RANK: FY 76 192

COMMENTS

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/28/76

POINT SOURCE INFORMATION

NAME Country Circle Tr. Pk

MAP REFERENCE NO: 15
CONTROL NO: 1154
REGISTRATION NO: NC 077 06
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: A-04

RECEIVING STREAM: Unnamed tributary to Beaucoup Ck., to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 3-Cell Lagoon

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	18	622	.77

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .005

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: No problem

PERMIT INFORMATION

NPDES #IL 0045837
EFFECTIVE DATE: 6/18/75
INTERIM LIMIT. DATE: 6/1/76
EXPIRATION DATE: 4/1/80

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)	20	4
TSS (mg/l)	30	5
F COLI/100 ML	200	200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Murphysboro FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson B

COMPLIANCE SCHEDULE

Final plans	8/1/75
Begin const.	11/1/75
Comp. const.	5/1/76
Op. level	6/1/76

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Cutler STW

MAP REFERENCE NO: 9
CONTROL NO: 1168
REGISTRATION NO: NCDA 145 01
COUNTY: Perry

BASIN: Big Muddy

SEGMENT: A-04

RECEIVING STREAM: Pipestone Creek to Galum Ck., to Beaucoup Ck., to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 1-Cell Lagoon

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	35	71	3.40

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .055

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: Frequent

PERMIT INFORMATION

NPDES #IL 0028291
EFFECTIVE DATE: 5/30/75
INTERIM LIMIT. DATE: *
EXPIRATION DATE: 2/28/77
*Dependent on auxiliary funding

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)	50	4
TSS (mg/l)	60	5
F COLI/100 ML		200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Cutler FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Perry A

COMPLIANCE SCHEDULE

Final plans 4 mos. after Step II
Begin const. 3 mos. after Step III
Op. level 1 mo. after comp.

GRANT INFORMATION

PROJECT DESCRIPTION:

PROJECT NO:

TOTAL COST:

PRIORITY RANK:

COMMENTS

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Dept. Conserv. Washngtn Co.
MAP REFERENCE NO: 1
CONTROL NO: 2216
REGISTRATION NO: NCN 189 01
COUNTY: Washington
BASIN: Big Muddy
SEGMENT: A-04

RECEIVING STREAM: Natural drainage ditch, to Locust Ck. to Beaucoup Ck, to Big Muddy River
STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Imhoff Tank
Sand Filter
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):
BOD TSS NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD):

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: No problem

PLANNING AREAS

PLANNING AREA
201:
208:

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Washington B

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

PERMIT INFORMATION

NPDES #IL 0048577 (draft)
EFFECTIVE DATE:
INTERIM LIMIT, DATE:
EXPIRATION DATE:

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		4
TSS (mg/l)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

COMMENTS

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/28/76

POINT SOURCE INFORMATION

NAME Elverado Comm. Unit Sch.
MAP REFERENCE NO: 10
CONTROL NO: 1207
REGISTRATION NO: NC 077 09
COUNTY: Jackson
BASIN: Big Muddy
SEGMENT: A-04

RECEIVING STREAM: Unnamed tributary to Beaucoup Ck., to Big Muddy River
STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Septic Tank
Recirculating Sand Filter
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):
BOD TSS NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .002

AVERAGE FLOW (MGD):

SEWER TYPE:

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #ILApplication not received
EFFECTIVE DATE:
INTERIM LIMIT, DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/1)		4
TSS (mg/1)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Vergennes FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson B

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Green Trees Mobl. Home

MAP REFERENCE NO: 16
CONTROL NO: 1265
REGISTRATION NO: NC 077 05
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: A-04

RECEIVING STREAM: Natural drainage, Beaucoup Creek, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Extended aeration
Polishing Pond
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	34	56	7.15

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .003

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0036935
EFFECTIVE DATE: 7/9/75
INTERIM LIMIT, DATE: 5/1/76
EXPIRATION DATE: 12/31/79

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/1)	20	4
TSS (mg/1)	20	5
F COLI/100 ML	200	200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Murphysboro FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson B

COMPLIANCE SCHEDULE

Final plans	7/15/75
Begin const.	7/ 1/75
Comp. progress rpt.	1/ 1/76
Op level	5/ 1/76

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

Lagoon exemption granted 11/25/75 for 30/30

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Lake Sallateeska Camp

MAP REFERENCE NO: 3
CONTROL NO: 1355
REGISTRATION NO: NC 145 06
COUNTY: Perry

BASIN: Big Muddy
SEGMENT: A-04

RECEIVING STREAM: Unnamed tributary to Beaucoup Ck., to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Septic Tank
Recirculating Sand Filter
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):
BOD TSS NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD):

AVERAGE FLOW (MGD):

SEWER TYPE:

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #ILApplication not filed
EFFECTIVE DATE:
INTERIM LIMIT, DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		4
TSS (mg/l)		5
F COLI/100 ML		200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Pinckneyville FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Perry A

COMPLIANCE SCHEDULE

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME MCA Recrods Ind 001

MAP REFERENCE NO: 6
CONTROL NO: 1173
REGISTRATION NO: NC 145 04
COUNTY: Perry

BASIN: Big Muddy
SEGMENT: A-04

RECEIVING STREAM: Unnamed tributary to Beaucoup Ck. to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: No treatment provided

PRESENT EFFLUENT QUALITY (MG/L):
BOD TSS NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD):

AVERAGE FLOW (MGD): .139

SEWER TYPE:

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0000671
EFFECTIVE DATE: 6/16/75
INTERIM LIMIT, DATE:
EXPIRATION DATE: 7/31/78

EFFLUENT LIMITATIONS:
001

	INTERIM	FINAL
BOD		
TSS (mg/l)		15(DM)
F COLI/100 ML		
NH_3-N		
Ni (mg/l)		1(DM)
Cr hex. (mg/l)		.3(DM)
Cr tri (mg/l)		1.0 (DM)
TDS & Temp.	rule	203

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201:
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Perry A

COMMENTS

001- Non-contact CWD with some Ni plating rinse water

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME MCA Recrods Ind NCCW 002

MAP REFERENCE NO: 6
CONTROL NO: 1173
REGISTRATION NO: NC 145 09
COUNTY: Perry

BASIN: Big Muddy

SEGMENT: A-04

RECEIVING STREAM: Unnamed tributary to Beaucoup Ck., to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: No treatment

PRESENT EFFLUENT QUALITY (MG/L):
BOD TSS NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .289

AVERAGE FLOW (MGD):

SEWER TYPE:

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0000671
EFFECTIVE DATE: 6/16/75
INTERIM LIMIT. DATE:
EXPIRATION DATE: 7/31/78

EFFLUENT LIMITATIONS:
002

	INTERIM	FINAL
BOD		
TSS		
F COLI/100 ML		
NH_3-N		
TDS	rule 203	
Temp.	rule 203	

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201:
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Perry A

COMMENTS

002 - Non-contact CWD

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME MCA Records DOM 003

MAP REFERENCE NO: 6
CONTROL NO: 1174
REGISTRATION NO: NC 145 10
COUNTY: Perry

BASIN: Big Muddy

SEGMENT: A-04

RECEIVING STREAM: Unnamed tributary to Beaucoup Creek to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Septic Tank
Intermittent Sand Filter

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	12	9	7.26

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: F.C.

DESIGN AVERAGE FLOW (MGD):

AVERAGE FLOW (MGD):

SEWER TYPE:

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0000671
EFFECTIVE DATE: 6/16/75
INTERIM LIMIT, DATE:
EXPIRATION DATE: 7/31/78

EFFLUENT LIMITATIONS:

003

	INTERIM	FINAL
BOD (mg/l)		4
TSS (mg/l)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201:
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Perry A

COMMENTS

003 Sanitary Wastes

GRANT INFORMATION

PROJECT DESCRIPTION:

PROJECT NO:

TOTAL COST:

PRIORITY RANK:

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME McElvain School 186

MAP REFERENCE NO: 14
CONTROL NO: 1393
REGISTRATION NO: NC 077 01
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: A-04

RECEIVING STREAM: Drainage to Beaucoup Ck., to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Septic Tank
Sand Filter

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	15	7	7.2

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: F.C.

DESIGN AVERAGE FLOW (MGD): .002

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0050083 (App. only)
EFFECTIVE DATE:
INTERIM LIMIT, DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		4
TSS (mg/l)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Murphysboro FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson B

COMMENTS

GRANT INFORMATION

PROJECT DESCRIPTION:

PROJECT NO:

TOTAL COST:

PRIORITY RANK:

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Mona Williams Tr. Pk.

MAP REFERENCE NO: 12
CONTROL NO: 1410
REGISTRATION NO: NCA 077 01
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: A-04

RECEIVING STREAM: Drainage ditch to Pond Ck., to Beaucoup Ck., to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 3 stage lagoon

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	13	152	5.0

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD): .003

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0049468 (App. only)
EFFECTIVE DATE:
INTERIM LIMIT. DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/1)		4
TSS (mg/1)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Murphysboro FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson B

COMMENTS

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Pinkneyville STW

MAP REFERENCE NO: 4
CONTROL NO: 1498
REGISTRATION NO: NC 145 01
COUNTY: Perry

BASIN: Big Muddy

SEGMENT: A-04

RECEIVING STREAM: Beaucoup Creek to Big Muddy R.

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Contact Stab.
Tertiary Lagoon
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	3	7	2.43

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD):

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: Frequent

PERMIT INFORMATION

NPDES #IL0021997
EFFECTIVE DATE: 11/30/73
INTERIM LIMIT. DATE:
EXPIRATION DATE: 11/29/78

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		4
TSS (mg/l)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Pickneyville FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Perry A

COMMENTS

GRANT INFORMATION

PROJECT DESCRIPTION: 22

PROJECT NO: C171631

TOTAL COST: $463,900

PRIORITY RANK: FY 76 946

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME U.S. Gypsum Co. Perry

MAP REFERENCE NO: 5
CONTROL NO: 1489
REGISTRATION NO: NC 145 02
COUNTY: Perry

BASIN: Big Muddy

SEGMENT: A-04

RECEIVING STREAM: Beaucoup Creek to Big Muddy R.

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Activated Sludge
Multi-Media Filters
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	3	13	1.51

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD):

AVERAGE FLOW (MGD):

SEWER TYPE:

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0000396
EFFECTIVE DATE: 4/11/74
INTERIM LIMIT. DATE:
EXPIRATION DATE: 9/30/78

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		4
TSS (mg/l)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Pinkneyville FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Perry A

COMMENTS

GRANT INFORMATION

PROJECT DESCRIPTION:

PROJECT NO:

TOTAL COST:

PRIORITY RANK:

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Crab Orchard Hi & Grd Sch.

MAP REFERENCE NO: 1
CONTROL NO: 1156
REGISTRATION NO: NDA 199 01
COUNTY: Williamson

BASIN: Big Muddy
SEGMENT: A-05

RECEIVING STREAM: Unnamed tributary to Little Crab Orchard Ck., to Crab Orchard Ck., to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Septic Tank
Intermittent Sand Filter
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	2	5	.40

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: F.C.

DESIGN AVERAGE FLOW (MGD): 0.0335

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: No problem

PERMIT INFORMATION

NPDES #IL Application not filed
EFFECTIVE DATE:
INTERIM LIMIT, DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		4
TSS (mg/l)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201:
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Williamson B

COMMENTS

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Marion STW

MAP REFERENCE NO: 5
CONTROL NO: 1384
REGISTRATION NO: ND 199 01
COUNTY: Williamson

BASIN: Big Muddy

SEGMENT: A-05

RECEIVING STREAM: Unnamed tributary to Crab Orchard Creek, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Trickling Filter
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):
BOD TSS NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: F.C.

DESIGN AVERAGE FLOW (MGD) 1.3

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: Frequent

PERMIT INFORMATION

NPDES #IL 0029734
EFFECTIVE DATE: 12/12/74
INTERIM LIMIT, DATE: 12/31/76
EXPIRATION DATE: 7/31/79

EFFLUENT LIMITATIONS:
001

	INTERIM	FINAL
BOD (mg/l)	20	4
TSS (mg/l)	25	5
F COLI/100 ML	200	200
NH_3-N		
P (mg/l)		.05

PLANNING AREAS

PLANNING AREA
201: Marion FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Williamson B

COMPLIANCE SCHEDULE

Final plans	12/31/74
Begin const.	12/ 1/75
Comp. const.	3/ 1/77
Op. level	4/ 1/77

(revised by IEPA, 6/24/75)

GRANT INFORMATION

PROJECT DESCRIPTION: 3910202199

PROJECT NO: C17074B

TOTAL COST: $4,086,500

PRIORITY RANK: FY 76 36

COMMENTS

NPDES permit also contains permit for treatment plant bypass, with conditions.

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Marion STW NW 002

MAP REFERENCE NO: 3
CONTROL NO: 1382
REGISTRATION NO: ND 199 17
COUNTY: Williamson

BASIN: Big Muddy
SEGMENT: A-05

RECEIVING STREAM: Ditch to Crab Orchard Creek, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 4-Stage Lagoon
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):
BOD TSS NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): 0.241

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: Frequent

PERMIT INFORMATION

NPDES #IL 0029742
EFFECTIVE DATE: 5/14/75
INTERIM LIMIT. DATE: 12/31/76
EXPIRATION DATE: 12/31/76

EFFLUENT LIMITATIONS:
002

	INTERIM	FINAL
BOD (mg/l)	15	Discont.
TSS (mg/l)	20	
F COLI/100 ML	200	
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Marion FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Williamson B

COMPLIANCE SCHEDULE

GRANT INFORMATION

PROJECT DESCRIPTION: 18

PROJECT NO: C170748

TOTAL COST:

PRIORITY RANK: FY 76 38

COMMENTS

Pfeffer exemption granted 2/1/73

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

POINT SOURCE INFORMATION

NAME Marion STW SW 003

MAP REFERENCE NO: 4
CONTROL NO: 1383
REGISTRATION NO: ND 199 06
COUNTY: Williamson

BASIN: Big Muddy

SEGMENT: A-05

RECEIVING STREAM: Unnamed tributary to Crab Orchard Creek to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 3 Stage Lagoon
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):
BOD TSS NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD):

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: Frequent

PERMIT INFORMATION

NPDES #IL 0029751
EFFECTIVE DATE: 5/14/75
INTERIM LIMIT, DATE:
EXPIRATION DATE: 12/31/76

EFFLUENT LIMITATIONS:

003

	INTERIM	FINAL
BOD (mg/l)	30	Excess
TSS (mg/l)	30	flow
F COLI/100 ML	200	Facility
NH_3-N		

To stop discharge after 12/31/76 the SW lagoon will be an excess flow holding pond for the SE Trickling Filter plant.

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Marion FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Williamson B

COMMENTS

GRANT INFORMATION

PROJECT DESCRIPTION: 18

PROJECT NO: C170748

TOTAL COST:

PRIORITY RANK: FY 76 18

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Tom's Bar-B-Q

MAP REFERENCE NO: 2
CONTROL NO: 1602
REGISTRATION NO: ND 199 22
COUNTY: Williamson

BASIN: Big Muddy

SEGMENT: A-05

RECEIVING STREAM: Drainage ditch to Crab Orchard Ck to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Septic Tank

PRESENT EFFLUENT QUALITY (MG/L):
BOD TSS NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): 0.0008

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: No problem

PERMIT INFORMATION

NPDES #IL Application not filed
EFFECTIVE DATE:
INTERIM LIMIT, DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/1)		4
TSS (mg/1)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Marion FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Williamson B

COMMENTS

GRANT INFORMATION

PROJECT DESCRIPTION:

PROJECT NO:

TOTAL COST:

PRIORITY RANK:

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Carterville STW

MAP REFERENCE NO: 4
CONTROL NO: 1102
REGISTRATION NO: ND 199 02
COUNTY: Williamson

BASIN: Big Muddy
SEGMENT: A-06

RECEIVING STREAM: PinOak Creek to Crab Orchard Creek, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Activated Sludge
Tertiary Lagoon
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	31	75	9.59

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: F.C.

DESIGN AVERAGE FLOW (MGD): 0.3

AVERAGE FLOW (MGD):

SEWER TYPE: Combined

OVERFLOW FREQUENCY: Frequent

PERMIT INFORMATION

NPDES #IL 0025178
EFFECTIVE DATE: 3/21/75
INTERIM LIMIT, DATE: *
EXPIRATION DATE: 2/28/77

*Dependent on auxiliary funding

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)	30	4
TSS (mg/l)	40	5
F COLI/100 ML	200	200
NH_3-N	rule	203

PLANNING AREAS

PLANNING AREA
201: Carterville FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Williamson A

COMPLIANCE SCHEDULE

Final plans 6 mos after Step II
Begin const. 3 mos. after StepIII
Comp. const. 12 mos. after begin.
Op. level 1 mo. after comp.

GRANT INFORMATION

PROJECT DESCRIPTION: 4910

PROJECT NO: C17 0986

TOTAL COST: $882,000

PRIORITY RANK: FY 76 428

COMMENTS

NPDES permit also permits combined sewer overflows with conditions

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Crab Orchard Refuge

MAP REFERENCE NO: 2
CONTROL NO: 1159
REGISTRATION NO: ND 199 03
COUNTY: Williamson

BASIN: Big Muddy
SEGMENT: A-06

RECEIVING STREAM: Crab Orchard Creek, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Activated Sludge
Disinfection

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	3	9	1.68

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: F.C.

DESIGN AVERAGE FLOW (MGD): 0.5

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: No problem

PERMIT INFORMATION

NPDES #IL 0045660 (draft)
EFFECTIVE DATE:
INTERIM LIMIT, DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/1)		4
TSS (mg/1)		5
F COLI/100 ML		200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201:
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Williamson A

COMPLIANCE SCHEDULE

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

Final IEPA certification postponed pending resolution of the phosphorus question.

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Devil's Kitchen Lak Cpgrd
MAP REFERENCE NO: 10
BASIN: Big Muddy
CONTROL NO: 1172
REGISTRATION NO: NDDA 199 01
COUNTY: Williamson
SEGMENT: A-06

RECEIVING STREAM: Unnamed tributary, Little Grassy Creek, to Grassy Creek, to Crab Orchard Creek, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE:

PRESENT EFFLUENT QUALITY (MG/L):
BOD TSS NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): 0.005

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: No problem

PERMIT INFORMATION

NPDES #IL Application not filed
EFFECTIVE DATE:
INTERIM LIMIT. DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		4
TSS (mg/l)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201:
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Williamson A

COMMENTS

GRANT INFORMATION

PROJECT DESCRIPTION:
PROJECT NO:

TOTAL COST:
PRIORITY RANK:

OPERATOR CERTIFICATION

PRESENT:
NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Giant City Camp Ground

MAP REFERENCE NO: 8
CONTROL NO: 1257
REGISTRATION NO: NDDA 077 01
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: A-06

RECEIVING STREAM: Tributary to Little Grassy Creek to Grassy Creek, to Crab Orchard Ck. to Big Muddy R.

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Imhoff
Recirculating Sand Filter
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	49	116	17.45

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .01

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0025593 (draft)
EFFECTIVE DATE:
INTERIM LIMIT, DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		4
TSS (mg/l)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201:
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson B

COMMENTS

GRANT INFORMATION

PROJECT DESCRIPTION:

PROJECT NO:

TOTAL COST:

PRIORITY RANK:

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Greenbriar Trustee

MAP REFERENCE NO: 5
CONTROL NO: 1266
REGISTRATION NO: ND 199 09
COUNTY: Williamson

BASIN: Big Muddy

SEGMENT: A-06

RECEIVING STREAM: Unnamed tributary to Crab Orchard Ck. to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 3 Cell Lagoon
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	24	33	5.03

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: F.C.

DESIGN AVERAGE FLOW (MGD): .021

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: No problem

PERMIT INFORMATION

NPDES #IL 0025551
EFFECTIVE DATE: 7/9/75
INTERIM LIMIT. DATE: 6/1/76
EXPIRATION DATE: 12/31/79

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)	30	4
TSS (mg/l)	30	5
F COLI/100 ML	200	200
NH_3-N (mg/l)		1.5
P (mg/l)		.5

PLANNING AREAS

PLANNING AREA
201: Carterville FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Williamson A

COMPLIANCE SCHEDULE

Final plans	12/1/75
Begin const.	1/1/76
Comp. const.	7/1/76
Op. level	8/1/76

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Hickory Leaf Tr. Pk.

MAP REFERENCE NO: 3
CONTROL NO: 1276
REGISTRATION NO: ND 199 05
COUNTY: Williamson

BASIN: Big Muddy
SEGMENT: A-06

RECEIVING STREAM: Unnamed tributary to Crab Orchard Ck., to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Septic Tank
Sand Filter
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	19	76	2.43

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: F.C.

DESIGN AVERAGE FLOW (MGD): 0.005

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: Freqent

PERMIT INFORMATION

NPDES #IL Application not filed
EFFECTIVE DATE:
INTERIM LIMIT. DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		4
TSS (mg/l)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Carterville FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Williamson A

COMMENTS

GRANT INFORMATION

PROJECT DESCRIPTION:

PROJECT NO:

TOTAL COST:

PRIORITY RANK:

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Hoc Briar Tr. Pk

MAP REFERENCE NO: 12
CONTROL NO: 1284
REGISTRATION NO: ND 199 26
COUNTY: Williamson

BASIN: Big Muddy
SEGMENT: A-06

RECEIVING STREAM: Unnamed tributary to Crab Orchard Ck., to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 4-Stage Lagoon
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	20	65	.08

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): 0.006

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: No problem

PERMIT INFORMATION

NPDES #IL Application not filed
EFFECTIVE DATE:
INTERIM LIMIT. DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		4
TSS (mg/l)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Carbondale FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Williamson A

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Hughes-Crab Orchard E.

MAP REFERENCE NO: 11
CONTROL NO: 1288
REGISTRATION NO: ND 199 23
COUNTY: Williamson

BASIN: Big Muddy
SEGMENT: A-06

RECEIVING STREAM: Unnamed tributary to Crab Orchard Ck., to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0.0

FACILITY INFORMATION

TREATMENT TYPE: Septic Tank
Recirculating Sand Filter
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):
BOD TSS NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): 0.002

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: No problem

PERMIT INFORMATION

NPDES #IL Application not filed
EFFECTIVE DATE:
INTERIM LIMIT, DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		4
TSS (mg/l)		5
F COLI/100 ML		200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Carbondale FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson B

COMPLIANCE SCHEDULE

COMMENTS

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Lakeview Farm Estates

MAP REFERENCE NO: 7
CONTROL NO: 1357
REGISTRATION NO: NDD 199 01
COUNTY: Williamson

BASIN: Big Muddy
SEGMENT: A-06

RECEIVING STREAM: Unnamed tributary to Grassy Ck., to Crab Orchard Ck., to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 1-Stage Lagoon

PRESENT EFFLUENT QUALITY (MG/L):
BOD TSS NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): 0.001

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: No problem

PERMIT INFORMATION

NPDES #IL Application not filed
EFFECTIVE DATE:
INTERIM LIMIT, DATE:
EXPIRATION DATE:

Derived from Chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/1)		4
TSS (mg/1)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201:
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Williamson A

COMMENTS

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Little Grassy Lake Cpgrd

MAP REFERENCE NO: 9
CONTROL NO: 1370
REGISTRATION NO: NDDA 199 02
COUNTY: Williamson

BASIN: Big Muddy
SEGMENT: A-06

RECEIVING STREAM: Little Grassy Lake, to Little Grassy Ck., to Crab Orchard Ck., to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Septic Tank
Sand Filter
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):
BOD TSS NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): 0.004

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: No problem

PERMIT INFORMATION

NPDES #IL Application not filed
EFFECTIVE DATE:
INTERIM LIMIT, DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		4
TSS (mg/l)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201:
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Williamson A

COMMENTS

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Logan, John A Jr. College
MAP REFERENCE NO: 6
CONTROL NO: 1317
REGISTRATION NO: ND 199 19
COUNTY: Williamson
BASIN: Big Muddy
SEGMENT: A-06

RECEIVING STREAM: Unnamed tributary to Crab Orchard Ck., to Big Muddy River
STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Activated Sludge
Tertiary Filters
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	5	8	4.88

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:
Hg, FC

DESIGN AVERAGE FLOW (MGD): 0.022

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: No problem

PERMIT INFORMATION

NPDES #IL Application not filed
EFFECTIVE DATE:
INTERIM LIMIT. DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		4
TSS (mg/l)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Carterville FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Williamson A

COMMENTS

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Williamson Co. Airport

MAP REFERENCE NO: 1
CONTROL NO: 1660
REGISTRATION NO: NDE 199 01
COUNTY: Williamson

BASIN: Big Muddy
SEGMENT: A-06

RECEIVING STREAM: Ditch to Pigeon Ck., to Crab Orchard Ck., to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Septic Tank
Recirculating Sand Filter
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):
BOD TSS NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): 0.002

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: No problem

PERMIT INFORMATION

NPDES #IL 0046981 (app. rec'd)
EFFECTIVE DATE:
INTERIM LIMIT. DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		4
TSS (mg/l)		5
F COLI/100 ML		200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Marion FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Williamson B

COMPLIANCE SCHEDULE

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Bush Mobile Homes No. 1

MAP REFERENCE NO 15
CONTROL NO: 1080
REGISTRATION NO: NDC 077 15
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: A-07

RECEIVING STREAM: Tributary to Drury Creek, to Crab Orchard Creek, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Septic Tank
Recirculating Sand Filter
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	89	30	28.7

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:
FC Hg

DESIGN AVERAGE FLOW (MGD): .003

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0046078
EFFECTIVE DATE: 7/23/75
INTERIM LIMIT. DATE: 8/31/75
EXPIRATION DATE: 3/31/80

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)	20	4
TSS (mg/l)	20	5
F COLI/100 ML	200	200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Carbondale FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson C

COMPLIANCE SCHEDULE

Upgrade existing operation and maintenance program 8/1/75

Start full operation 9/1/75

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Bush Mobil Home No. 2

MAP REFERENCE NO: 12
CONTROL NO: 1081
REGISTRATION NO: NDC 077 20
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: A-07

RECEIVING STREAM: Ditch to Drury Ck., to Crab Orchard Ck. to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Septic Tank
Recirculating Sand Filter
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	75	66	17.42

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD): .006

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0046060
EFFECTIVE DATE: 7/15/75
INTERIM LIMIT, DATE:
EXPIRATION DATE: 3/31/80

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		4
TSS (mg/l)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Carbondale FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson C

GRANT INFORMATION

PROJECT DESCRIPTION:

PROJECT NO:

TOTAL COST:

PRIORITY RANK:

COMMENTS

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Camelot M.H.P.

MAP REFERENCE NO: 27
CONTROL NO: 1088
REGISTRATION NO: ND 077 13
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: A-07

RECEIVING STREAM: Unnamed tributary to Crab Orchard to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 3-Stage Lagoon
Subsurface Sand Filter
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):
BOD TSS NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .015

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0050547 (App only.)
EFFECTIVE DATE:
INTERIM LIMIT, DATE:
EXPIRATION DATE:
Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		30
TSS (mg/l)		30
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Carbondale FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson C

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

Lagoon exemption granted 11/21/72
No discharge yet

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Carbondale NW STW

MAP REFERENCE NO: 32
CONTROL NO: 1093
REGISTRATION NO: NDA 077 01
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: A-07

RECEIVING STREAM: Big Muddy (See Comments)

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): > 30:1 (See Comments)

FACILITY INFORMATION

TREATMENT TYPE: Primary
Trickling Filter
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	25	75	7.4

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .750

AVERAGE FLOW (MGD): .690

SEWER TYPE: Separate

OVERFLOW FREQUENCY: Frequent

PERMIT INFORMATION

NPDES #IL 0027871
EFFECTIVE DATE: 3/28/75
INTERIM LIMIT. DATE: 5/31/76
EXPIRATION DATE: 2/28/79

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)	60	30
TSS (mg/l)	70	30
F COLI/100 ML	200	200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Carbondale FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson C

COMPLIANCE SCHEDULE

Final Plans	8/1/75
Begin const.	10/1/75
Comp. const.	5/1/76
Op. level	6/1/76

Separate, earlier, schedule for Chlorination and new outfall.

GRANT INFORMATION

PROJECT DESCRIPTION:	PROJECT NO:
13710212399	C171160
22	C171160

TOTAL COST:	PRIORITY RANK:
$3,226,000	FY 76 124
353,500	FY 76 1092

COMMENTS

1) Present outfall goes to Little Crab Orch. Ck., outfall of expanded plant will go directly to Big Muddy, Segment B-03
2) When in full operation, industrial flows from SE will come to this plant

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

POINT SOURCE INFORMATION

NAME Carbondale Southeast

MAP REFERENCE NO: 22
CONTROL NO: 1092
REGISTRATION NO: ND 077 04
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: A-07

RECEIVING STREAM: Ditch to Crab Orchard Ck., to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Activated Sludge
Lagoon
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

	BOD	TSS	NH_3-N
1974 MEAN	7	13	15.0

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): 5.00

AVERAGE FLOW (MGD): 3.82

SEWER TYPE: Separate

OVERFLOW FREQUENCY: Frequent

PERMIT INFORMATION

NPDES #IL 0027898
EFFECTIVE DATE: 11/8/74
INTERIM LIMIT. DATE: 12/31/78
EXPIRATION DATE: 2/28/79

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)	30	10
TSS (mg/l)	30	12
F COLI/100 ML	200	200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Carbondale FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson C

COMPLIANCE SCHEDULE

Final plans	7/1/76
Begin const.	9/1/76
Comp. const.	12/1/77
Op. level	1/1/78

GRANT INFORMATION

PROJECT DESCRIPTION: 2111823

PROJECT NO: C171160

TOTAL COST: $1,968,000

PRIORITY RANK: FY 76 124

COMMENTS

12/31/78 will discharge to Big Muddy River

Pfeffer exemption granted 6/19/75

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Cedar Lane Tr. Pk.

MAP REFERENCE NO: 7
CONTROL NO: 1105
REGISTRATION NO: NDC 077 01
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: A-07

RECEIVING STREAM: Tributary to Drury Creek to Crab Orchard Creek to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Lagoon

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	28	42	6.00

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD): .016

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0047597
EFFECTIVE DATE: 7/20/75
INTERIM LIMIT. DATE: 8/31/76
EXPIRATION DATE: 3/31/80

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)	30	4
TSS(mg/l)	30	5
F COLI/100 ML		200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Carbondale FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson C

COMPLIANCE SCHEDULE

Final plans	9/1/75
Begin const.	1/1/76
Comp. const.	8/1/76
Op. level	9/1/76

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

POINT SOURCE INFORMATION

NAME Chateau Apts-Hilton

MAP REFERENCE NO: 20
CONTROL NO: 1604
REGISTRATION NO: NDC 077 12
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: A-07

RECEIVING STREAM: Intermittent stream to Drury Ck., to Crab Orchard Ck., to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 1- Stage Lagoon
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	10	14	3.4

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD): .017

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0045365
EFFECTIVE DATE: 7/24/75
INTERIM LIMIT, DATE: 2/1/77
EXPIRATION DATE: 4/1/80

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)	30	4
TSS (mg/l)	30	5
F COLI/100 ML		200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Carbondale FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson C

COMPLIANCE SCHEDULE

Final plans	12/1/76
Begin const.	4/1/76
Comp. const.	1/1/77
Op. level	2/1/77

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Chucks Country Estates

MAP REFERENCE NO: 21
CONTROL NO: 1126
REGISTRATION NO: ND 077 01
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: A-07

RECEIVING STREAM: Tributary to Crab Orchard Creek to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Lagoon

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	12	28	.87

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD): .008

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0047007
EFFECTIVE DATE: 7/18/75
INTERIM LIMIT, DATE: 4/1/76
EXPIRATION DATE: 12/31/79

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)	Monitor	4
TSS (mg/l)	Only	5
F COLI/100 ML		200
NH_3-N	Rule	203

PLANNING AREAS

PLANNING AREA
201: Carbondale FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson C

COMPLIANCE SCHEDULE

Final plans	7/31/75
Comp. const.	3/ 1/76
Op. level	4/ 1/76

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Country Village Apts.

MAP REFERENCE NO: 26
CONTROL NO: 1150
REGISTRATION NO: ND 077 12
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: A-07

RECEIVING STREAM: Drainage ditch to Crab Orchard Creek to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Extended aeration
Sand Filter
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

	BOD	TSS	NH_3-N
1974 MEAN	7	7	5.18

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .006

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: No bypass

PERMIT INFORMATION

NPDES #IL Application not filed
EFFECTIVE DATE:
INTERIM LIMIT. DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		4
TSS (mg/l)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Carbondale FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson C

COMMENTS

GRANT INFORMATION

PROJECT DESCRIPTION:

PROJECT NO:

TOTAL COST:

PRIORITY RANK:

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Crab Orchard Lake M.H.

MAP REFERENCE NO: 23
CONTROL NO: 1157
REGISTRATION NO: ND 077 05
COUNTY: Jackson

BASIN: Big Muddy

SEGMENT: A-07

RECEIVING STREAM: Ditch to Crab Orchard Creek to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 3-Stage Lagoon
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	32	97	6.38

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD): .019

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0044784
EFFECTIVE DATE: 7/23/75
INTERIM LIMIT. DATE: 2/1/77
EXPIRATION DATE: 1/1/80

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)	50	4
TSS (mg/l)	50	5
F COLI/100 ML	200	200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Carbondale
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson C

COMPLIANCE SCHEDULE

GRANT INFORMATION

PROJECT DESCRIPTION:

PROJECT NO:

TOTAL COST:

PRIORITY RANK:

COMMENTS

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Edgewood MH EST-STK

MAP REFERENCE NO: 39
CONTROL NO: 1298
REGISTRATION NO: NDA 077 09
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: A-07

RECEIVING STREAM: Natural drainage to Little Crab Orchard to Crab Orchard Creek to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Septic Tank
Recirculating Sand Filter
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	2	9	3.45

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD): .005

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL Application not filed
EFFECTIVE DATE:
INTERIM LIMIT. DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/1)		4
TSS (mg/1)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Carbondale FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson C

COMMENTS

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Frost Trailer Court

MAP REFERENCE NO: 11
CONTROL NO: 1243
REGISTRATION NO: NDC 077 07
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: A-07

RECEIVING STREAM: Intermittent ditch to Drury Creek to Crab Orchard Creek to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 3-Stage lagoon
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	10	18	5.12

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD): .017

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0047635
EFFECTIVE DATE: 7/18/75
INTERIM LIMIT. DATE: 6/30/76
EXPIRATION DATE: 3/31/80

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)	45	4
TSS (mg/l)	45	5
F COLI/100 ML	200	200
NH_3-N	Rule	203

PLANNING AREAS

PLANNING AREA
201: Carbondale FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson C

COMPLIANCE SCHEDULE

Final plans	8/31/75
Begin const.	10/ 1/75
Comp. const.	6/ 1/76
Op. level	7/ 1/76

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Giant City Lodge

MAP REFERENCE NO: 3
CONTROL NO: 1251
REGISTRATION NO: NDCB 181 --
COUNTY: Union

BASIN: Big Muddy
SEGMENT: A-07

RECEIVING STREAM: Unnamed tributary to Indian Ck., to Drury Ck., to Crab Orchard Ck., to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Imhoff
Sand Filter
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	75	53	25.77

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD): .002

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: No problem

PERMIT INFORMATION

NPDES #IL Application not filed
EFFECTIVE DATE:
INTERIM LIMIT. DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		4
TSS (mg/l)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201:
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Union A

COMMENTS

GRANT INFORMATION

PROJECT DESCRIPTION:

PROJECT NO:

TOTAL COST:

PRIORITY RANK:

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Giant City School 130

MAP REFERENCE NO: 6
CONTROL NO: 1252
REGISTRATION NO: NDCA 077 01
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: A-07

RECEIVING STREAM: Ditch to Sycamore Creek to Drury Creek to Crab Orchard Creek, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Septic Tank
Sand Filter
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):
BOD TSS NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .003

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0025844
EFFECTIVE DATE: 7/9/75
INTERIM LIMIT. DATE: 12/1/75
EXPIRATION DATE: 12/31/79

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)	30	4
TSS (mg/l)	30	5
F COLI/100 ML		200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201:
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson C

COMPLIANCE SCHEDULE

Final plans	7/1/75
Begin const.	8/1/75
Comp. const.	11/1/75
Op. level	12/1/75

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

Serves 25 employees; discharges 9 mos/year

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Green Acres Court Lgn

MAP REFERENCE NO: 38
CONTROL NO: 1247
REGISTRATION NO: NDA 077 02
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: A-07

RECEIVING STREAM: Little Crab Orchard Creek #1 to Crab Orchard Creek, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 1-Stage Lagoon
Rock Filter
Sand Filter
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	40	70	4.08

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD): .01

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0049085 (draft)
EFFECTIVE DATE:
INTERIM LIMIT. DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD(mg/1)		4
TSS (mg/1)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Carbondale FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson C

COMMENTS

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Ill Ctl Gulf RR Carbondl

MAP REFERENCE NO: 42

CONTROL NO: 1289

REGISTRATION NO: ND 077 14

COUNTY: Jackson

BASIN: Big Muddy

SEGMENT: A-07

RECEIVING STREAM: Unnamed tributary to Crab Orchard Creek to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 2-Cell Lagoon, with oil skimming

PRESENT EFFLUENT QUALITY (MG/L):

BOD TSS NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .145

AVERAGE FLOW (MGD):

SEWER TYPE:

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL Application not filed

EFFECTIVE DATE:

INTERIM LIMIT, DATE:

EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/1)		4
TSS (mg/1)		5
F COLI/100 ML		200
NH_3-N		

PLANNING AREAS

PLANNING AREA

201: Carbondale FPA

208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson C

COMPLIANCE SCHEDULE

GRANT INFORMATION

PROJECT DESCRIPTION:

PROJECT NO:

TOTAL COST:

PRIORITY RANK:

COMMENTS

Construction started 6/19/75
Emergency Oil Containment and Treatment facilities.

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Koppers Co. Inc.

MAP REFERENCE NO: 33
CONTROL NO: 1344
REGISTRATION NO: NDB 077 10
COUNTY: Jackson

BASIN: Big Muddy

SEGMENT: A-07

RECEIVING STREAM: Subsurface

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): N/A

FACILITY INFORMATION

TREATMENT TYPE: 3-Cell Lagoons
Extended aeration
Land Application

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	125	103	5.85

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

FC, Fe(tot), Mn, Hg, Phenol

DESIGN AVERAGE FLOW (MGD): .03

AVERAGE FLOW (MGD):

SEWER TYPE:

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0000400 (App. only)
EFFECTIVE DATE:
INTERIM LIMIT, DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		4
TSS (mg/l)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Carbondale FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson C

GRANT INFORMATION

PROJECT DESCRIPTION:

PROJECT NO:

TOTAL COST:

PRIORITY RANK:

COMMENTS

1) Letter from USEPA, June 17, 1974, to IEPA, states that NPDES permit is required.

2) Boron levels high in 1974 (MEAN 17.4, MAX 17.0 mg/l)

3) Total P high in '74 (MEAN 40 mg/l)

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Lakeland Hills Subd

MAP REFERENCE NO: 19
CONTROL NO: 1351
REGISTRATION NO: NDC 077 02
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: A-07

RECEIVING STREAM: Intermittent ditch to Drury Creek to Crab Orchard Creek to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Lagoon

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	17	30	.75

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD): .018

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0038580
EFFECTIVE DATE: 7/18/75
INTERIM LIMIT. DATE: 5/1/77
EXPIRATION DATE: 12/31/79

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)	40	4
TSS (mg/l)	75	5
F COLI/100 ML		200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Carbondale FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson C

COMPLIANCE SCHEDULE

Final plans	1/1/76
Begin const.	4/1/76
Comp. const.	4/1/77
Op. level	5/1/77

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Lincoln Village

MAP REFERENCE NO: 29 BASIN: Big Muddy
CONTROL NO: 1556
REGISTRATION NO: NDB 077 06
COUNTY: Jackson SEGMENT: A-07

RECEIVING STREAM: Drainage ditch to Piles Fork, to Crab Orchard Creek, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Extended aeration
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	34	28	4.77

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .023

AVERAGE FLOW (MGD):

SEWER TYPE: Combined

OVERFLOW FREQUENCY: Frequent

PERMIT INFORMATION

NPDES #IL Application not filed
EFFECTIVE DATE:
INTERIM LIMIT, DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		4
TSS (mg/l)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Carbondale FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson C

COMMENTS

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Malibu Village Inc

MAP REFERENCE NO: 9
CONTROL NO: 1386
REGISTRATION NO: NDC 077 13
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: A-07

RECEIVING STREAM: Intermittent stream to Drury Creek, to Crab Orchard Creek, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 3-Stage lagoon
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	17	46	.35

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD): .018

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0045357
EFFECTIVE DATE: 7/18/75
INTERIM LIMIT. DATE: 1/31/77
EXPIRATION DATE: 6/30/75

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD(mg/1)	30	4
TSS (mg/1)	60	5
F COLI/100 ML	200	200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Carbondale FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson C

COMPLIANCE SCHEDULE

Final plans	1/1/76
Begin const.	4/1/76
Comp. const.	1/1/77
Op. level	1/31/77

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

POINT SOURCE INFORMATION

NAME Mt. Pleasant Tr. Pk

MAP REFERENCE NO: 30
CONTROL NO: 1541
REGISTRATION NO: NDB 077 07
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: A-07

RECEIVING STREAM: Ditch to Piles Fork to Crab Orchard Creek to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 3-Stage Lagoon
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	21	66	10.3

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD): .006

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0045225
EFFECTIVE DATE: 7/18/75
INTERIM LIMIT, DATE: 2/28/77
EXPIRATION DATE: 6/30/75

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)	70	4
TSS (mg/l)	70	5
F COLI/100 ML	200	200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Carbondale FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson C

COMPLIANCE SCHEDULE

Final plans	1/1/76
Begin const.	5/1/76
Comp. const.	2/1/77
Op. level	3/1/77

GRANT INFORMATION

PROJECT DESCRIPTION:

PROJECT NO:

TOTAL COST:

PRIORITY RANK:

COMMENTS

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME New Thompson Lake Fishing
MAP REFERENCE NO: 41
CONTROL NO: 1593
REGISTRATION NO: NDA 077 12
COUNTY: Jackson
BASIN: Big Muddy
SEGMENT: A-07

RECEIVING STREAM: Little Crab Orchard Ck. to Crab Orchard Ck. to Big Muddy R.
STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 3-Stage lagoon
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

	BOD	TSS	NH_3-N
1974 MEAN	35	86	1.25

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD): .020

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL0048569 (draft)
EFFECTIVE DATE:
INTERIM LIMIT. DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		4
TSS (mg/l)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Carbondale FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson C

COMMENTS

GRANT INFORMATION

PROJECT DESCRIPTION:
PROJECT NO:

TOTAL COST:
PRIORITY RANK:

OPERATOR CERTIFICATION

PRESENT:
NEEDED:

WPC-141-PSS
1/23/76

POINT SOURCE INFORMATION

NAME Parrish Paul Apartments

MAP REFERENCE NO: 36
CONTROL NO: 1475
REGISTRATION NO: NDA 077 08
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: A-07

RECEIVING STREAM: Ditch to Little Crab Orchard #1 to Crab Orchard Creek to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Septic Tank
Recirculating Sand Filter
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):
BOD TSS NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .003

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0048089
EFFECTIVE DATE: 7/30/75
INTERIM LIMIT. DATE:
EXPIRATION DATE: 3/31/80

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		4
TSS (mg/l)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Carbondale FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson C

COMMENTS

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Pleasant Hill Tr. Pk

MAP REFERENCE NO: 13
CONTROL NO: 1504
REGISTRATION NO: NDC 077 06
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: A-07

RECEIVING STREAM: Ditch to Drury Creek to Crab Orchard Creek to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 3-Stage lagoon
Algae precipitation
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	21	34	1.44

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .020

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: Never

PERMIT INFORMATION

NPDES #IL 0047732
EFFECTIVE DATE: 7/18/75
INTERIM LIMIT. DATE: 6/30/76
EXPIRATION DATE: 3/31/80

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/1)	40	4
TSS (mg/1)	40	5
F COLI/100 ML		200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Carbondale FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson C

COMPLIANCE SCHEDULE

Final plans	8/31/75
Begin const.	10/1/75
Comp. const.	6/1/76
Op. level	7/1/76

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Pleasant Valley Tr. Pk

MAP REFERENCE NO: 14
CONTROL NO: 1501
REGISTRATION NO: NDC 077 04
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: A-07

RECEIVING STREAM: Natural ditch to Drury Creek to Crab Orchard Creek to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 3-Stage lagoon
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	14	47	.95

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD): .035

AVERAGE FLOW (MGD):

SEWER TYPE:

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0047601 (draft)
EFFECTIVE DATE:
INTERIM LIMIT, DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/1)		4
TSS (mg/1)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Carbondale FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson C

COMMENTS

GRANT INFORMATION

PROJECT DESCRIPTION:

PROJECT NO:

TOTAL COST:

PRIORITY RANK:

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Raccoon Valley Trailer Pk

MAP REFERENCE NO: 1
CONTROL NO: 1339
REGISTRATION NO: NDC 077 19
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: A-07

RECEIVING STREAM: Tributary to Drury Creek to Crab Orchard Creek to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 3-Stage lagoon
Sand Filter
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):
BOD TSS NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .018

AVERAGE FLOW (MGD):

SEWER TYPE:

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL Application not filed
EFFECTIVE DATE:
INTERIM LIMIT, DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD(mg/1)		30
TSS(mg/1)		30
F COLI/100 ML		200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201:
208:

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE:

COMPLIANCE SCHEDULE

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

Under construction
Lagoon Exemption issued
5/18/73

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Robinson Tr. Pk.

MAP REFERENCE NO: 31
CONTROL NO: 1520
REGISTRATION NO: NDB 077 12
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: A-07

RECEIVING STREAM: Ditch to Piles Fork, to Crab Orchard Creek, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 3-Stage lagoon
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	13	45	2.0

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD): .010

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL Application not filed
EFFECTIVE DATE:
INTERIM LIMIT. DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD(mg/1)		4
TSS(mg/1)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Carbondale FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson C

COMMENTS

GRANT INFORMATION

PROJECT DESCRIPTION:

PROJECT NO:

TOTAL COST:

PRIORITY RANK:

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

POINT SOURCE INFORMATION

NAME Roxanne Trailer Court

MAP REFERENCE NO: 10
CONTROL NO: 1523
REGISTRATION NO: NDC 077 08
COUNTY: Jackson

BASIN: Big Muddy

SEGMENT: A-07

RECEIVING STREAM: Intermittent stream to Drury Creek, to Crab Orchard Creek, to Big Muddy R.

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 3-Stage lagoon
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	16	41	2.33

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .044

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0038083
EFFECTIVE DATE: 7/9/75
INTERIM LIMIT. DATE:
EXPIRATION DATE: 12/31/79

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/1)		30
TSS (mg/1)		30
F COLI/100 ML		200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Carbondale FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson C

COMPLIANCE SCHEDULE

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

Chapter 3 indicates 4/5

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME San Pat Apartments

MAP REFERENCE NO: 25
CONTROL NO: 1530
REGISTRATION NO: ND 077 06
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: A-07

RECEIVING STREAM: Roadside ditch to Crab Orchard Creek, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 3-Stage lagoon
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	9	22	.29

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD): .017

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: Never

PERMIT INFORMATION

NPDES #IL 0046132
EFFECTIVE DATE: 7/23/75
INTERIM LIMIT. DATE: 6/30/76
EXPIRATION DATE: 3/31/80

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)	40	4
TSS (mg/l)	40	5
F COLI/100 ML	200	200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Carbondale FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson C

COMPLIANCE SCHEDULE

Final plans	8/31/75
Begin const.	10/ 1/75
Comp. const.	6/ 1/76
Op. level	7/ 1/76

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Sav-Mart Dept. Store
MAP REFERENCE NO: 24
CONTROL NO: 1536
REGISTRATION NO: ND 077 03
COUNTY: Jackson
BASIN: Big Muddy
SEGMENT: A-07

RECEIVING STREAM: Roadside ditch to Crab Orchard Creek to Big Muddy River
STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Extended aeration
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	7	61	2.51

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: pH, FC

DESIGN AVERAGE FLOW (MGD): .015

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0025577
EFFECTIVE DATE: 7/9/75
INTERIM LIMIT. DATE: 7/31/76
EXPIRATION DATE: 12/31/79

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)	10	4
TSS (mg/l)	20	5
F COLI/100 ML	200	200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Carbondale FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson C

COMPLIANCE SCHEDULE

Final plans	11/30/75
Begin const.	12/31/75
Comp. const.	6/30/76
Op. level	8/ 1/76

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Seventh Day Adventist Church

MAP REFERENCE NO: 40
CONTROL NO: 1537
REGISTRATION NO: ND 077 07
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: A-07

RECEIVING STREAM: Natural ditch to Crab Orchard Creek to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Septic Tank
Sand Filter
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	25	14	7.10

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD): .006

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL Application not filed
EFFECTIVE DATE:
INTERIM LIMIT. DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/1)		4
TSS (mg/1)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Carbondale FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson C

COMMENTS

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Shamrock Apartment

MAP REFERENCE NO: 28
CONTROL NO: 1542
REGISTRATION NO: NDB 077 09
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: A-07

RECEIVING STREAM: Unnamed stream to Piles Fork, to Crab Orchard Creek, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Extended aeration
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	69	38	27.38

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .004

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: Never

PERMIT INFORMATION

NPDES #IL 0037966
EFFECTIVE DATE: 6/24/75
INTERIM LIMIT, DATE: 6/30/76
EXPIRATION DATE: 3/31/80

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)	20	4
TSS (mg/l)	20	5
F COLI/100 ML	200	200
NH_3-N	rule	203

PLANNING AREAS

PLANNING AREA
201: Carbondale FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson C

COMPLIANCE SCHEDULE

Final plan	8/31/75
Begin const.	10/ 1/75
Comp. const.	6/ 1/76
Op level	7/ 1/76

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME SIU Little Grassy Lake Camp

MAP REFERENCE NO: 4
CONTROL NO: 1548
REGISTRATION NO: NDCB 077 02
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: A-07

RECEIVING STREAM: Intermittent stream to Indian Creek to Drury Creek to Crab Orchard Creek, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Extended aeration
Sand Filter
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	5	25	.14

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD): .038

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: Frequent

PERMIT INFORMATION

NPDES #IL 0047899 (draft)
EFFECTIVE DATE:
INTERIM LIMIT. DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		4
TSS (mg/l)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201:
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson C

COMMENTS

GRANT INFORMATION

PROJECT DESCRIPTION:

PROJECT NO:

TOTAL COST:

PRIORITY RANK:

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME SIU Office& Storage

MAP REFERENCE NO: 35
CONTROL NO: 1539
REGISTRATION NO: NDA 077 07
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: A-07

RECEIVING STREAM: Ditch to Little Crab Orchard #1 to Crab Orchard Creek, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 3-Stage lagoon
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	1	16	6.5

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD): .001

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: Never

PERMIT INFORMATION

NPDES #IL Application not filed
EFFECTIVE DATE:
INTERIM LIMIT, DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/1)		4
TSS (mg/1)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Carbondale FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson C

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

Permit for a sewer extension to eliminate this plant has been issued

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Southern Mobil Home Pk

MAP REFERENCE NO: 18
CONTROL NO: 1560
REGISTRATION NO: NDC 077 18
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: A-07

RECEIVING STREAM: Intermittent stream to Drury Creek, to Crab Orchard Creek, To Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 3-Stage lagoon
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

	BOD	TSS	NH_3-N
1974 MEAN	17	28	5.28

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD): .019

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0044857
EFFECTIVE DATE: 7/18/75
INTERIM LIMIT. DATE: 5/31/76
EXPIRATION DATE: 4/30/80

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/1)	30	4
TSS (mg/1)	30	5
F COLI/100 ML	200	200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Carbondale FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson C

COMPLIANCE SCHEDULE

Final plans	10/1/75
Begin const.	11/1/75
Comp. const.	6/1/76
Op. level	6/1/76

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Tan-Tara MHP #2

MAP REFERENCE NO: 37
CONTROL NO: 1591
REGISTRATION NO: NDA 077 10
COUNTY: Jackson

BASIN: Big Muddy

SEGMENT: A-07

RECEIVING STREAM: Roadside ditch to Little Crab Orchard to Crab Orchard Creek, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Lagoon
Rock Filter
Sand Filter
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	9	70	.4

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD): .023

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0049077 (draft)
EFFECTIVE DATE:
INTERIM LIMIT. DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		4
TSS (mg/l)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Carbondale FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson C

COMMENTS

GRANT INFORMATION

PROJECT DESCRIPTION:

PROJECT NO:

TOTAL COST:

PRIORITY RANK:

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Town-N-Country Tr. Pk

MAP REFERENCE NO: 8
CONTROL NO: 1596
REGISTRATION NO: NDC 077 14
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: A-07

RECEIVING STREAM: Intermittent Creek to Drury Cr. to Crab Orchard Creek, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 3-Stage lagoon
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	26	60	.89

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD): .020

AVERAGE FLOW (MGD):

SEWER TYPE: Combined

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0045042 (draft)
EFFECTIVE DATE:
INTERIM LIMIT. DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD(mg/l)		4
TSS(mg/l)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Carbondale FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson C

COMMENTS

GRANT INFORMATION

PROJECT DESCRIPTION:

PROJECT NO:

TOTAL COST:

PRIORITY RANK:

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Union Hills-Lake Lenore

MAP REFERENCE NO: 34
CONTROL NO: 1613
REGISTRATION NO: NDA 077 04
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: A-07

RECEIVING STREAM: Unnamed tributary to Little Crab Orchard Creek, to Crab Orchard Creek, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 3-Stage lagoon
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	11	34	2.48

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD): .004

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0038032
EFFECTIVE DATE: 7/23/75
INTERIM LIMIT. DATE:
EXPIRATION DATE: 3/31/77

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		30
TSS (mg/l)		30
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Carbondale FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson C

GRANT INFORMATION

PROJECT DESCRIPTION:

PROJECT NO:

TOTAL COST:

PRIORITY RANK:

COMMENTS

Lagoon exemption granted 11/27/72

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Unity Point School 140

MAP REFERENCE NO: 2
CONTROL NO: 1612
REGISTRATION NO: NDC 077 05
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: A-07

RECEIVING STREAM: Drainage ditch to Drury Creek, to Crab Orchard Creek, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Extended aeration
Polishing Pond
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	15	18	.48

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD): .013

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL0045748
EFFECTIVE DATE: 7/18/75
INTERIM LIMIT. DATE: 7/31/76
EXPIRATION DATE: 4/30/80

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)	30	4
TSS (mg/l)	30	5
F COLI/100 ML	200	200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Carbondale FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson C

COMPLIANCE SCHEDULE

Final plans	12/1/75
Begin const.	3/1/76
Comp. const.	8/1/76
Op. level	8/1/76

GRANT INFORMATION

PROJECT DESCRIPTION:

PROJECT NO:

TOTAL COST:

PRIORITY RANK:

COMMENTS

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME University Hts. Mobl. Hm

MAP REFERENCE NO: 16
CONTROL NO: 1616
REGISTRATION NO: NDC 077 21
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: A-07

RECEIVING STREAM: Ditch to Drury Creek to Crab Orchard Creek, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Contact Stabilization
Polishing Pond
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	33	25	20.99

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .025

AVERAGE FLOW (MGD):

SEWER TYPE: Combined

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0038415
EFFECTIVE DATE: 6/30/75
INTERIM LIMIT. DATE: 2/1/77
EXPIRATION DATE: 12/31/79

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD(mg/l)	30	4
TSS(mg/l)	30	5
F COLI/100 ML	200	200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Carbondale FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson C

COMPLIANCE SCHEDULE

Final plans	2/1/76
Begin const.	4/1/76
Comp. const.	1/1/77
Op. level	2/1/77

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Warrens Mobile Home

MAP REFERENCE NO: 17
CONTROL NO: 1630
REGISTRATION NO: NDC 077 16
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: A-07

RECEIVING STREAM: Drainage ditch to Drury Creek, to Crab Orchard Creek, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Septic Tank
Recirculating Sand Filter
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	15	16	1.84

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD): .005

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0038423
EFFECTIVE DATE: 7/18/75
INTERIM LIMIT. DATE:
EXPIRATION DATE: 3/31/80

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/1)		4
TSS (mg/1)		5
F COLI/100 ML		200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Carbondale FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson C

COMPLIANCE SCHEDULE

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Wildwood Mobile Home

MAP REFERENCE NO: 5
CONTROL NO: 1250
REGISTRATION NO: NDC 077 11
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: A-07

RECEIVING STREAM: Unnamed ditch to Drury Creek, to Crab Orchard Creek, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 3-Stage lagoon
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	12	20	2.5

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .020

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0037125 (draft)
EFFECTIVE DATE:
INTERIM LIMIT, DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		4
TSS (mg/l)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Carbondale FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson C

COMMENTS

GRANT INFORMATION

PROJECT DESCRIPTION:

PROJECT NO:

TOTAL COST:

PRIORITY RANK:

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Farm Labor Assoc Cobden

MAP REFERENCE NO: 2
CONTROL NO: 1242
REGISTRATION NO: NAFA 181 02
COUNTY: Union

BASIN: Big Muddy
SEGMENT: A-09

RECEIVING STREAM: Stream to Mill Creek to Clay Lick, to Cedar Creek, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 3-Cell lagoon

PRESENT EFFLUENT QUALITY (MG/L):
BOD TSS NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .014

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0047767
EFFECTIVE DATE: 7/18/75
INTERIM LIMIT. DATE: 12/31/76
EXPIRATION DATE: 4/30/80

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)	30	4*
TSS (mg/l)	30	5*
F COLI/100 ML	200	200
NH_3-N		

* 30/30 if exempted

PLANNING AREAS

PLANNING AREA
201:
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Union A

COMPLIANCE SCHEDULE

Final plans	12/1/75
Begin const.	4/1/76
Comp. const.	12/1/76
Op. level	1/1/77

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

No discharge observed to date.
Seasonal operation

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

POINT SOURCE INFORMATION

NAME Orchard Hill Sch. 186

MAP REFERENCE NO: 4
CONTROL NO: 1471 A
REGISTRATION NO: NA 077 01
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: A-09

RECEIVING STREAM: Ditch to Sugar Creek, to Cedar Creek to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Septic Tank
Sand Filter
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):
BOD TSS NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .002

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: None

PERMIT INFORMATION

NPDES #IL 0050041 (App filed)
EFFECTIVE DATE:
INTERIM LIMIT, DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		4
TSS(mg/l)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201:
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson C

COMMENTS

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME South Pass Products Inc. MAP REFERENCE NO: 1 BASIN: Big Muddy
CONTROL NO: 1200
REGISTRATION NO: NAFA 181 01
COUNTY: Union SEGMENT: A-09

RECEIVING STREAM: Subsurface

STREAM 7-DAY 10-YEAR LOW FLOW (CFS):

FACILITY INFORMATION

TREATMENT TYPE: Settling Pond
Spray Irrigation

PRESENT EFFLUENT QUALITY (MG/L):
BOD TSS NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .004

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL App. not filed
EFFECTIVE DATE:
INTERIM LIMIT. DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/1)		4
TSS (mg/1)		5
F COLI/100 ML		200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201:
208:

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Union A

COMPLIANCE SCHEDULE

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

Eckert Orchard Inc.
Domestic & Industrial waste
Spray irrigation

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

POINT SOURCE INFORMATION

NAME Union Hills-Lake Lilac

MAP REFERENCE NO: 3 BASIN: Big Muddy
CONTROL NO: 1609
REGISTRATION NO: NADA 077 01
COUNTY: Jackson SEGMENT: A-09

RECEIVING STREAM: Intermittent-Rocky Branch-Poplar Camp Creek-Cedar Creek Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 1-Stage lagoon

PRESENT EFFLUENT QUALITY (MG/L):
BOD TSS NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .004

AVERAGE FLOW (MGD):

SEWER TYPE:

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0046221 (App. filed)
EFFECTIVE DATE:
INTERIM LIMIT, DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		4
TSS (mg/l)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201:
208:

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE:

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

Phosphorus limitation of .05 mg/l required. Lagoon exemption was issued, but has been revoked.

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

POINT SOURCE INFORMATION

NAME Archway TR PK-Mt Vernon

MAP REFERENCE NO: 2 BASIN: Big Muddy
CONTROL NO: 2041
REGISTRATION NO: NZV 081 04
COUNTY: Jefferson SEGMENT: B-01

RECEIVING STREAM: Unnamed stream to Harper Creek, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Imhoff
Recirculating Sand Filter
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):
BOD TSS NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .013

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL Application not filed
EFFECTIVE DATE:
INTERIM LIMIT. DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/1)		4
TSS (mg/1)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Mt. Vernon FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201): Mt. Vernon

FPA MAP REFERENCE: Jefferson A

COMMENTS

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Country Aire MHP-Mt. Vernon

MAP REFERENCE NO: 10
CONTROL NO: 2195
REGISTRATION NO: NJ 081 10
COUNTY: Jefferson

BASIN: Big Muddy
SEGMENT: B-01

RECEIVING STREAM: Unnamed stream to Casey Fork, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 3-Cell lagoon
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	16	45	.97

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .014

AVERAGE FLOW (MGD): ADWF=0

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0033821
EFFECTIVE DATE: 6/20/75
INTERIM LIMIT. DATE: 4/1/76
EXPIRATION DATE: 12/31/79

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)	40	4 *
TSS (mg/l)	40	5*
F COLI/100 ML	200	200
NH_3-N		

*Pending receipt of lagoon exemption

PLANNING AREAS

PLANNING AREA
201: Mt. Vernon FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201): Mt. Vernon

FPA MAP REFERENCE: Jefferson A

COMPLIANCE SCHEDULE

Begin const.	10/15/75
Comp. const.	3/1/76
Op. level	4/1/76

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Dix Sewage Lagoon

MAP REFERENCE NO: 8
CONTROL NO: 2208
REGISTRATION NO: NJ 081 07
COUNTY: Jefferson

BASIN: Big Muddy

SEGMENT: B-01

RECEIVING STREAM: Casey Fork, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 3-Cell lagoon
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	14	17	3.05

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD): .035

AVERAGE FLOW (MGD): ADWF=0

SEWER TYPE: Separate

OVERFLOW FREQUENCY: Frequent

PERMIT INFORMATION

NPDES #IL 0023493
EFFECTIVE DATE: 11/30/73
INTERIM LIMIT, DATE:
EXPIRATION DATE: 10/29/78

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		4 (MA)
TSS (mg/l)		5 (MA)
F COLI/100 ML		200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Dix FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jefferson A

COMPLIANCE SCHEDULE

GRANT INFORMATION

PROJECT DESCRIPTION: 4899

PROJECT NO: C171612

TOTAL COST: $83,800

PRIORITY RANK: FY 76 837

COMMENTS

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Dodds Comm. Consol Sch.

MAP REFERENCE NO: 14
CONTROL NO: 2211
REGISTRATION NO: NJ 081 04
COUNTY: Jefferson

BASIN: Big Muddy
SEGMENT: B-01

RECEIVING STREAM: Unnamed ditch to Casey Fork, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Imhoff Tank
Sand Filter

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	44	410	10.4

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD):

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL Application not filed
EFFECTIVE DATE:
INTERIM LIMIT, DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		4
TSS (mg/l)		5
F COLI/100 ML		200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Mt. Vernon FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201): Mt. Vernon

FPA MAP REFERENCE: Jefferson A

COMPLIANCE SCHEDULE

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Field Comm Consol Sch.

MAP REFERENCE NO: 9
CONTROL NO: 2274
REGISTRATION NO: NJ 081 03
COUNTY: Jefferson

BASIN: Big Muddy
SEGMENT: B-01

RECEIVING STREAM: Unnamed tributary to Casey Fork, to Big Muddy Fork

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Imhoff tank
Intermittent sand filter

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	92	11	22.62

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD):

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0036820
EFFECTIVE DATE: 6/9/75
INTERIM LIMIT, DATE: 1/1/76
EXPIRATION DATE: 12/31/79

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)	10	4
TSS (mg/l)	12	5
F COLI/100 ML		200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201:
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jefferson A

COMPLIANCE SCHEDULE

Final plans	8/1/75
Begin const.	9/1/75
Comp. const.	12/1/75
Op. level	1/1/76

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME General Tire and Rubber

MAP REFERENCE NO: 13
CONTROL NO: 2312
REGISTRATION NO: NJ 081 12
COUNTY: Jefferson

BASIN: Big Muddy
SEGMENT: B-01

RECEIVING STREAM: Unnamed stream to Casey Fork, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Septic Tank
Pressurized Sand Filters

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	7	48	.15

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD):

AVERAGE FLOW (MGD):

SEWER TYPE:

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0035017
EFFECTIVE DATE: 7/30/75
INTERIM LIMIT, DATE:
EXPIRATION DATE: 4/30/77

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		4
TSS (mg/l)		5
F COLI/100 ML		200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Mt. Vernon FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201): Mt. Vernon

FPA MAP REFERENCE: Jefferson B

COMPLIANCE SCHEDULE

GRANT INFORMATION

PROJECT DESCRIPTION:

PROJECT NO:

TOTAL COST:

PRIORITY RANK:

COMMENTS

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Grand Prairie School

MAP REFERENCE NO: 1
CONTROL NO: 2343
REGISTRATION NO: N 081 02
COUNTY: Jefferson

BASIN: Big Muddy

SEGMENT: B-01

RECEIVING STREAM: Ditch to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Imhoff Tank
Intermittent Sand Filter

PRESENT EFFLUENT QUALITY (MG/L):
BOD TSS NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD):

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0034240 (draft)
EFFECTIVE DATE:
INTERIM LIMIT. DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		4
TSS (mg/l)		5
F COLI/100 ML		200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201:
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jefferson A

COMPLIANCE SCHEDULE

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Mt. Vernon STW

MAP REFERENCE NO: 11
CONTROL NO: 2535
REGISTRATION NO: NJ 081 01
COUNTY: Jefferson

BASIN: Big Muddy
SEGMENT: B-01

RECEIVING STREAM: Casey Fork, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Primary filter
Trickling filter
Final tanks
Lagoons, Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

	BOD	TSS	NH_3-N
1974 MEAN	15	28	4.382

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD):

AVERAGE FLOW (MGD):

SEWER TYPE: Separate and combined

OVERFLOW FREQUENCY: Frequent

PERMIT INFORMATION

NPDES #IL 0027341
EFFECTIVE DATE: 1/19/75
INTERIM LIMIT. DATE: 7/31/77
EXPIRATION DATE: 7/31/77

EFFLUENT LIMITATIONS:

001	INTERIM	FINAL
BOD (mg/1)	20	4
TSS (mg/1)	30	5
F COLI/100 ML	200	200
NH_3-N		
p (mg/1)	8.1(1)	.05

(1) during variance period see comments.

COMPLIANCE SCHEDULE

Final plans	11/1/75
Begin const.	4/1/76
Comp. const.	6/30/77
Op. level	7/31/77

PLANNING AREAS

PLANNING AREA
201: Mt. Vernon FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201): Mt. Vernon

FPA MAP REFERENCE: Jefferson B

COMMENTS

Sewer system on different compliance schedule, but above completion date is for both sewers and STW.

IPCB variance from P requirement until 7/1/77. Present P requirement is 8.1.

GRANT INFORMATION

PROJECT DESCRIPTION:	PROJECT NO:
22	C171661
99	C171661

TOTAL COST:	PRIORITY RANK:
$381,900	FY76 959
344,100	FY76 959

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Precision Products

MAP REFERENCE NO: 12
CONTROL NO: 2673
REGISTRATION NO: NJ 081 09
COUNTY: Jefferson

BASIN: Big Muddy
SEGMENT: B-01

RECEIVING STREAM: Casey Fork, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Chrome recovery system

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	31	59	.76

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD):

AVERAGE FLOW (MGD):

SEWER TYPE:

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL Application not filed
EFFECTIVE DATE:
INTERIM LIMIT, DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		4
TSS (mg/l)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Mt. Vernon FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201): Mt. Vernon

FPA MAP REFERENCE: Jefferson B

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

There have been intermittent discharges containing Chromium (from plating operation), but discharges are now stopped, according to owner.

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Rend Lake College

MAP REFERENCE NO: 15
CONTROL NO: 2683
REGISTRATION NO: N 081 04
COUNTY: Jefferson

BASIN: Big Muddy
SEGMENT: B-01

RECEIVING STREAM: Unnamed tributary to Big Muddy R.

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Contact Stabilization
Tertiary Filters
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	1	22	.17

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .28

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0036790
EFFECTIVE DATE: 7/18/75
INTERIM LIMIT. DATE:
EXPIRATION DATE: 9/30/77

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/1)		4
TSS (mg/1)		5
F COLI/100 ML		200
NH_3-N		
P (mg/1)		.05

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: North Rend Lake FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jefferson B

COMMENTS

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Sesser STW

MAP REFERENCE NO: 16
CONTROL NO: 1540
REGISTRATION NO: NZS 055 01
COUNTY: Franklin

BASIN: Big Muddy
SEGMENT: B-01

RECEIVING STREAM: Jackie Branch to Rend Lake, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Imhoff
Trickling Filter
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	25	45	11.34

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: Hg, FC

DESIGN AVERAGE FLOW (MGD): .250

AVERAGE FLOW (MGD): .150

SEWER TYPE: Separate and combined

OVERFLOW FREQUENCY: Frequent

PERMIT INFORMATION

NPDES #IL 0031020
EFFECTIVE DATE: 8/18/75
INTERIM LIMIT. DATE: 12/31/75
EXPIRATION DATE: 10/31/76

EFFLUENT LIMITATIONS:
001

	INTERIM	FINAL
BOD (mg/1)	30	10
TSS (mg/1)	40	12
F COLI/100 ML	200	200
NH_3-N		
P (mg/1)		.05

PLANNING AREAS

PLANNING AREA
201: Sesser FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201): City of SESSER

FPA MAP REFERENCE: Franklin

COMPLIANCE SCHEDULE
Final plans 6 mos. after Step II
Begin const 3 mos after step III
Comp. const. 15 mos. after begin.
Op. level 1 mos. after comp.

GRANT INFORMATION

PROJECT DESCRIPTION: 491020

PROJECT NO: C171015

TOTAL COST: $416,400

PRIORITY RANK: FY 76 91

COMMENTS

Pfeffer exemption granted 9/27/74

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Shady Oaks Pri. Camp-STK

MAP REFERENCE NO: 17
CONTROL NO: 1550
REGISTRATION NO: N 055 14
COUNTY: Franklin

BASIN: Big Muddy

SEGMENT: B-01

RECEIVING STREAM: Unnamed tributary to Rend Lake, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Septic Tank
Recirculating Sand Filter
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):
BOD TSS NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .005

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0046116 (draft)
EFFECTIVE DATE:
INTERIM LIMIT. DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		4
TSS (mg/l)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Rend Lake West-FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Franklin A

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

Under construction 1/12/76

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Waltonville Gde. Sch.
MAP REFERENCE NO: 6
CONTROL NO: 2871
REGISTRATION NO: NZU 081 01
COUNTY: Jefferson
BASIN: Big Muddy
SEGMENT: B-01

RECEIVING STREAM: Ditch to Buck Creek, to Big Muddy River
STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Imhoff Tank
Intermittent Sand Filter

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	1	82	.72

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD):

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL Application not filed
EFFECTIVE DATE:
INTERIM LIMIT, DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		4
TSS (mg/l)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Waltonville FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201): Waltonville

FPA MAP REFERENCE: Jefferson C

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

Flow will be diverted to Waltonville STP when it is completed.

OPERATOR CERTIFICATION

PRESENT: NEEDED:

POINT SOURCE INFORMATION

NAME Waltonville H.S.

MAP REFERENCE NO: 7
CONTROL NO: 2874
REGISTRATION NO: NZU 081 02
COUNTY: Jefferson

BASIN: Big Muddy
SEGMENT: B-01

RECEIVING STREAM: Ditch to Buck Creek, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Imhoff Tank
Intermittent Sand Filter

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	2	60	.94

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD):

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL Application not filed
EFFECTIVE DATE:
INTERIM LIMIT. DATE:
EXPIRATION DATE:
Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/1)		4
TSS (mg/1)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Waltonville FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201): Waltonville

FPA MAP REFERENCE: Franklin C

GRANT INFORMATION

PROJECT DESCRIPTION:

PROJECT NO:

TOTAL COST:

PRIORITY RANK:

COMMENTS

Flow will be diverted to Waltonville STP when it is completed

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Woodlawn Grade Sch.

MAP REFERENCE NO: 3
CONTROL NO: 2919
REGISTRATION NO: NK 081 01
COUNTY: Jefferson

BASIN: Big Muddy
SEGMENT: B-01

RECEIVING STREAM: Ditch to Rayse Creek, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Imhoff Tank
Intermittent Sand Filter

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	57	70	31.5

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD):

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL Application not filed
EFFECTIVE DATE:
INTERIM LIMIT, DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		4
TSS (mg/l)		5
F COLI/100 ML		200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Woodlawn FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201): Woodlawn

FPA MAP REFERENCE: Jefferson A

COMPLIANCE SCHEDULE

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

Flow to be diverted to Woodlawn STP when it is completed.

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Woodlawn H.S.

MAP REFERENCE NO: 4
CONTROL NO: 2922
REGISTRATION NO: NK 081 02
COUNTY: Jefferson

BASIN: Big Muddy

SEGMENT: B-01

RECEIVING STREAM: Ditch to Rayse Creek, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Imhoff Tank
Intermittent Sand Filter

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	1	211	.04

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD):

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL Application not filed
EFFECTIVE DATE:
INTERIM LIMIT, DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		4
TSS (mg/l)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Woodlawn FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201): Woodlawn

FPA MAP REFERENCE: Jefferson A

GRANT INFORMATION

PROJECT DESCRIPTION:

PROJECT NO:

TOTAL COST:

PRIORITY RANK:

COMMENTS

This plant's flows will be diverted to the new Woodlawn STP.

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Woodlawn STW

MAP REFERENCE NO: 5
CONTROL NO: 2923
REGISTRATION NO: N 081 03
COUNTY: Jefferson

BASIN: Big Muddy
SEGMENT: B-01

RECEIVING STREAM: Unnamed tribuatary to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE:

PRESENT EFFLUENT QUALITY (MG/L):
BOD TSS NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD):

AVERAGE FLOW (MGD):

SEWER TYPE:

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0031836
EFFECTIVE DATE: 6/18/75
INTERIM LIMIT, DATE:
EXPIRATION DATE: 6/30/77

EFFLUENT LIMITATIONS:
001

	INTERIM	FINAL
BOD (mg/1)		4
TSS (mg/1)		5
F COLI/100 ML		200
NH_3-N		
P (mg/1)		.05

PLANNING AREAS

PLANNING AREA
201: Woodlawn FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201): Woodlawn

FPA MAP REFERENCE: Jefferson A

COMPLIANCE SCHEDULE

GRANT INFORMATION

PROJECT DESCRIPTION:	PROJECT NO:
381021	C170623
22	C171673

TOTAL COST:	PRIORITY RANK:
$175,100	FY 76 371
166,800	FY 76 964

COMMENTS

Above effluent requirements effective beginning date new facility operational

Pfeffer exemption granted 10/24/75

Under construction

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Allen Industry, Inc.
Herrin

MAP REFERENCE NO: 17
CONTROL NO: 1008
REGISTRATION NO: NFA 199 01
COUNTY: Williamson

BASIN: Big Muddy

SEGMENT: B-02

RECEIVING STREAM: Unnamed tributary to Little Hurricane Creek, to Hurricane Creek, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Imhoff Tank
Intermittent Sand Filter
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	8	9	3.88

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): 0.01

AVERAGE FLOW (MGD):

SEWER TYPE:

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0000311
EFFECTIVE DATE: 9/13/74
INTERIM LIMIT. DATE:
EXPIRATION DATE: 1/31/78

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/1)		4
TSS (mg/1)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Herrin FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201): Herrin

FPA MAP REFERENCE: Williamson A

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

Industrial wastes from this company are not discharged.

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141 PSS

1/23/76

POINT SOURCE INFORMATION

NAME Bates Campground STK

MAP REFERENCE NO: 6
CONTROL NO: 1040
REGISTRATION NO: NZN 055 02
COUNTY: Franklin

BASIN: Big Muddy

SEGMENT: B-02

RECEIVING STREAM: Andy Creek, to Mud Creek, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Septic Tank
Recirculating Sand Filter
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	7	47	0

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .005

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL Application not filed
EFFECTIVE DATE:
INTERIM LIMIT, DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		4
TSS (mg/l)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Christopher FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Franklin A

COMMENTS

GRANT INFORMATION

PROJECT DESCRIPTION:

PROJECT NO:

TOTAL COST:

PRIORITY RANK:

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Benton STW NW

MAP REFERENCE NO: 3
CONTROL NO: 1048
REGISTRATION NO: NZP 055 01
COUNTY: Franklin

BASIN: Big Muddy
SEGMENT: B-02

RECEIVING STREAM: Sugar Creek, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Primary
Trickling Filter

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	23	22	4.17

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD): 1.4

AVERAGE FLOW (MGD): .5

SEWER TYPE: Separate

OVERFLOW FREQUENCY: Frequent(> 5/year)

PERMIT INFORMATION

NPDES #IL 0022365
EFFECTIVE DATE: 3/28/75
INTERIM LIMIT. DATE: *
EXPIRATION DATE: 6/30/77

*Dependent on auxiliary funding

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)	30	10
TSS (mg/l)	30	12
F COLI/100 ML		200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Benton FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201): Benton

FPA MAP REFERENCE: Franklin A

COMPLIANCE SCHEDULE

Final plans 6 mos. after Step II
Begin const. 3 mos. after Step II
Comp. const. 15 mos. after begin.
Op. level 1 mo after comp.

GRANT INFORMATION

PROJECT DESCRIPTION: 49102023

PROJECT NO: C171370

TOTAL COST: $1,026,000

PRIORITY RANK: FY 76 167

COMMENTS

This is the larger of two city of Benton plants. The SE plant discharges to the Middle Fork of the B.M. (Seg. A-02).

Pfeffer exemption granted 12/16/74

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Cambria STW

MAP REFERENCE NO: 19
CONTROL NO: 1085
REGISTRATION NO: N 199 07
COUNTY: Williamson

BASIN: Big Muddy
SEGMENT: B-02

RECEIVING STREAM: Unnamed tributary to Big Muddy R.

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 4-Stage Lagoon
Submerged Sand Filter
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):
BOD TSS NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .0.16

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0039169
EFFECTIVE DATE: 1/19/75
INTERIM LIMIT, DATE:
EXPIRATION DATE: 2/28/77

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/1)		30
TSS (mg/1)		30
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Carterville FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Williamson A

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

Lagoon exemption granted 3/7/73

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Christopher N. Lgn.

MAP REFERENCE NO: 8
CONTROL NO: 1124
REGISTRATION NO: N 055 07
COUNTY: Franklin

BASIN: Big Muddy

SEGMENT: B-02

RECEIVING STREAM: Unnamed tributary to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Single Lagoon

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	28	107	1.83

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD): .270

AVERAGE FLOW (MGD): .230

SEWER TYPE: Separate

OVERFLOW FREQUENCY: Frequent

PERMIT INFORMATION

NPDES #IL 0020851
EFFECTIVE DATE: 11/10/74
INTERIM LIMIT, DATE: *
EXPIRATION DATE: 2/28/77

*Dependent on auxiliary funding

EFFLUENT LIMITATIONS:
001

	INTERIM	FINAL
BOD (mg/l)	30	10
TSS (mg/l)	50	12
F COLI/100 ML		200
NH_3-N	Rule	203(f)

PLANNING AREAS

PLANNING AREA
201: Christopher FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Franklin A

COMPLIANCE SCHEDULE

COMMENTS

Pfeffer exemption granted 11/14/74

GRANT INFORMATION

PROJECT DESCRIPTION: 4810

PROJECT NO: C171168

TOTAL COST: $348,200

PRIORITY RANK: FY76 232

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

POINT SOURCE INFORMATION

NAME Christopher S. Lgn.

MAP REFERENCE NO: 9
CONTROL NO: 1125
REGISTRATION NO: N 055 10
COUNTY: Franklin

BASIN: Big Muddy

SEGMENT: B-02

RECEIVING STREAM: Unnamed tributary to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE:

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	30	76	1.17

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD): .270

AVERAGE FLOW (MGD): .230

SEWER TYPE: Separate

OVERFLOW FREQUENCY: Frequent (>5/year)

PERMIT INFORMATION

NPDES #IL 0020851
EFFECTIVE DATE: 11/10/74
INTERIM LIMIT. DATE: *
EXPIRATION DATE: 2/28/77

*Dependent on auxiliary funding

EFFLUENT LIMITATIONS:
002

	INTERIM	FINAL
BOD (mg/l)	30	10
TSS (mg/l)	50	12
F COLI/100 ML		200
NH_3-N	Rule	203(f)

PLANNING AREAS

PLANNING AREA
201: Christopher FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Franklin A

COMPLIANCE SCHEDULE

Final plans 3 mos. after Step II
Begin const. 3 mos. after Step III
Comp. const. 12 mos. after begin.
Op. level 1 mo. after comp.

GRANT INFORMATION

PROJECT DESCRIPTION: 4810

PROJECT NO: C171168

TOTAL COST: $348,200

PRIORITY RANK: FY 76 232

COMMENTS

Pfeffer exemption granted 11/14/74

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Colp. STW

MAP REFERENCE NO: 16
CONTROL NO: 1137
REGISTRATION NO: NF 199 07
COUNTY: Williamson

BASIN: Big Muddy

SEGMENT: B-02

RECEIVING STREAM: Hurricane Creek, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 3-Stage Lagoon
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	21	37	1.31

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD): 0.045

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0028223
EFFECTIVE DATE: 6/9/75
INTERIM LIMIT. DATE: *
EXPIRATION DATE: 2/28/77
*Dependent on auxiliary funding

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)	40	4
TSS (mg/l)	60	5
F COLI/100 ML	200	200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Colp FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Williamson A

COMPLIANCE SCHEDULE

Final plans 3mos. after Step II
Begin const. 3 mos. after Step III
Comp. const. 6 mos. after begin.
Op. level 1 mo. after comp.

GRANT INFORMATION

PROJECT DESCRIPTION:

PROJECT NO:

TOTAL COST:

PRIORITY RANK:

COMMENTS

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Corps of Engr. Rend Lake

MAP REFERENCE NO: 1
CONTROL NO: 1082
REGISTRATION NO: N 055 11
COUNTY: Franklin

BASIN: Big Muddy
SEGMENT: B-02

RECEIVING STREAM: Rend Lake to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Extended aeration
Tertiary Filter
Phosphorus Removal
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	4	16	.43

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD): .005

AVERAGE FLOW (MGD): .001

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0022917
EFFECTIVE DATE: 3/21/74
INTERIM LIMIT. DATE:
EXPIRATION DATE: 8/20/78

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/1)		4
TSS (mg/1)		5
F COLI/100 ML		200
NH_3-N		
P (mg/1)		.05(DM)
Res. Cl (mg/1)		.5 (DM)

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Rend Lake West FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Franklin A

COMMENTS

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Crainville STW

MAP REFERENCE NO: 14
CONTROL NO: 1160
REGISTRATION NO: NF 199 06
COUNTY: Williamson

BASIN: Big Muddy
SEGMENT: B-02

RECEIVING STREAM: Hurricane Creek, to Big Muddy R.

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 3-stage lagoon

PRESENT EFFLUENT QUALITY (MG/L):
BOD TSS NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD): 0.11

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: Frequent

PERMIT INFORMATION

NPDES #IL 0028240 App. rec'd
EFFECTIVE DATE:
INTERIM LIMIT. DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		4
TSS (mg/l)		5
F COLI/100 ML		200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Carterville FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Williamson A

COMPLIANCE SCHEDULE

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Energy STW

MAP REFERENCE NO: 15
CONTROL NO: 1208
REGISTRATION NO: NF 199 02
COUNTY: Williamson

BASIN: Big Muddy

SEGMENT: B-02

RECEIVING STREAM: Unnamed tributary to mine pit to Hurricane Creek, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 1-Cell Lagoon

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	36	99	5.02

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): 0.1

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: Frequent

PERMIT INFORMATION

NPDES #IL 0023566
EFFECTIVE DATE: 6/30/75
INTERIM LIMIT. DATE: *
EXPIRATION DATE: 3/31/77

*Dependent on auxiliary funding

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)	50	4
TSS (mg/l)	70	5
F COLI/100 ML		200
NH_3-N	Rule 203	

PLANNING AREAS

PLANNING AREA
201: Herrin FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201): Herrin

FPA MAP REFERENCE: Williamson A

COMPLIANCE SCHEDULE

Final plans 3 mos. after Step II
Begin const. 3 mos. after Step III
Comp. const. 12 mos after begin.
Op. level 1 mo. after comp.

GRANT INFORMATION

PROJECT DESCRIPTION: 481021

PROJECT NO: C170987

TOTAL COST: $162,300

PRIORITY RANK: FY 76 290

COMMENTS

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Franklin Co. Hsng. Auth.

MAP REFERENCE NO: 4
CONTROL NO: 1282
REGISTRATION NO: NZO 055 01
COUNTY: Franklin

BASIN: Big Muddy
SEGMENT: B-02

RECEIVING STREAM: Stormsewer to ditch, to Fallet Branch, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Extended Aeration
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	65	70	19.0

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .007

AVERAGE FLOW (MGD): .004

SEWER TYPE: Combined

OVERFLOW FREQUENCY: Frequent

PERMIT INFORMATION

NPDES #IL 0044601
EFFECTIVE DATE: 7/18/75
INTERIM LIMIT, DATE: 11/30/76
EXPIRATION DATE: 6/30/77

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		4
TSS (mg/l)		5
F COLI/100 ML		200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Benton FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201): Benton

FPA MAP REFERENCE: Franklin A

COMPLIANCE SCHEDULE

Final plans	2/1/76
Begin const.	7/1/76
Comp. const.	11/1/76
Op. level	12/1/76

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

POINT SOURCE INFORMATION

NAME Herrin STW

MAP REFERENCE NO: 13
CONTROL NO: 1273
REGISTRATION NO: NF 199 09
COUNTY: Williamson

BASIN: Big Muddy
SEGMENT: B-02

RECEIVING STREAM: Unnamed tributary to Hurricane Ck. to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Trickling Filter
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	42	33	9.02

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD): 1.2

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: Frequent

PERMIT INFORMATION

NPDES #IL 0029165
EFFECTIVE DATE: 7/9/75
INTERIM LIMIT, DATE: *
EXPIRATION DATE: 4/30/77

*Dependent on auxiliary funding

EFFLUENT LIMITATIONS:
001

		INTERIM	FINAL
BOD	(mg/l)	30	10
TSS	(mg/l)	30	12
F COLI/100 ML			200
NH_3-N			

PLANNING AREAS

PLANNING AREA
201: Herrin FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201): City of Herrin

FPA MAP REFERENCE: Williamson A

COMPLIANCE SCHEDULE

Final plans 12 mos after Step II
Begin const 3 mos. after Step III
Comp. const. 16 mos after begin.
Op. level 1 mo. after comp.

GRANT INFORMATION

PROJECT DESCRIPTION: 4910

PROJECT NO: C170762

TOTAL COST: $378,600

PRIORITY RANK: FY76 187

COMMENTS

Pfeffer exemption granted 12/16/74

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Hurst STW

MAP REFERENCE NO: 18
CONTROL NO: 1291
REGISTRATION NO: N 199 02
COUNTY: Williamson

BASIN: Big Muddy

SEGMENT: B-02

RECEIVING STREAM: Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 30.2

FACILITY INFORMATION

TREATMENT TYPE: Imhoff Tank
Trickling Filter
Final Settling

PRESENT EFFLUENT QUALITY (MG/L):
BOD TSS NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): 0.1

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: Frequent

PERMIT INFORMATION

NPDES #IL 0029246
EFFECTIVE DATE: 3/8/75
INTERIM LIMIT. DATE: *
EXPIRATION DATE: 4/30/77

*Dependent on auxiliary funding

EFFLUENT LIMITATIONS:

001

	INTERIM	FINAL
BOD (mg/1)	40	30
TSS (mg/1)	40	30
F COLI/100 ML	200	200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Hurst FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201): City of Hurst

FPA MAP REFERENCE: Williamson A

COMPLIANCE SCHEDULE

Final plans 6 mos. after Step II
Begin const. 3 mos. after Step III
Comp. const. 12 mos. after begin.
Op. level 1 mo. after comp.

GRANT INFORMATION

PROJECT DESCRIPTION: 21020

PROJECT NO: C170985

TOTAL COST: $104,900

PRIORITY RANK: FY 76 340

COMMENTS

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Rend Lake Safari Camp STW
MAP REFERENCE NO: 2
CONTROL NO: 1534
REGISTRATION NO: NZQ 055 01
COUNTY: Franklin
BASIN: Big Muddy
SEGMENT: B-02

RECEIVING STREAM: Unnamed Creek to Marcum Branch to Big Muddy River
STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Septic Tank
Recirculating Sand Filter
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):
BOD TSS NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): 0.24

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: No problem

PERMIT INFORMATION

NPDES #IL Application not filed
EFFECTIVE DATE:
INTERIM LIMIT, DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		4
TSS (mg/l)		5
F COLI/100 ML		200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Benton FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201): Benton

FPA MAP REFERENCE: Franklin A

COMPLIANCE SCHEDULE

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Royalton STW

MAP REFERENCE NO: 12
CONTROL NO: 1526
REGISTRATION NO: N 055 06
COUNTY: Franklin

BASIN: Big Muddy

SEGMENT: B-02

RECEIVING STREAM: Unnamed tributary to Big Muddy

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Single Cell Lagoon

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	19	32	1.62

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD): .135

AVERAGE FLOW (MGD): .085

SEWER TYPE: Separate

OVERFLOW FREQUENCY: Frequent

PERMIT INFORMATION

NPDES #IL 0023337
EFFECTIVE DATE: 4/29/74
INTERIM LIMIT, DATE: *
EXPIRATION DATE: 6/30/77

*Dependent on auxiliary funding

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)	30	4
TSS (mg/l)	30	5
F COLI/100 ML		200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Royalton FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Franklin A

COMPLIANCE SCHEDULE

Final plans 12 mos. after Step II
Begin const. 6 mos. after Step III
Comp. const. 18 mos. after begin.

GRANT INFORMATION

PROJECT DESCRIPTION: 48102123

PROJECT NO: C171595

TOTAL COST: $276,200

PRIORITY RANK: FY 76 733

COMMENTS

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Valier STW

MAP REFERENCE NO: 7 BASIN: Big Muddy
CONTROL NO: 1615
REGISTRATION NO: NZN 055 01
COUNTY: Franklin SEGMENT: B-02

RECEIVING STREAM: Unnamed tributary to Andy Creek, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 3-Stage Lagoon

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	23	28	3.9

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD) .08

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: Frequent

PERMIT INFORMATION

NPDES #IL 0031542
EFFECTIVE DATE: 12/30/74
INTERIM LIMIT, DATE: *
EXPIRATION DATE: 6/30/77

*Dependent on auxiliary funding

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)	20	4
TSS (mg/l)	40	5
F COLI/100 ML	200	200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Christopher FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Franklin A

COMPLIANCE SCHEDULE

Final plans 6 mos. after Step II
Begin const. 3 mos. after StepIII
Comp. const. 12 mos. after begin.
Op level 1 mo. after comp.

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

Lagoon exemption granted 9/26/75 for 30/30

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Washington School #47

MAP REFERENCE NO: 5
CONTROL NO: 1642
REGISTRATION NO: NZO 055 04
COUNTY: Franklin

BASIN: Big Muddy
SEGMENT: B-02

RECEIVING STREAM: Small ditch to Fallet Branch, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Septic Tank
Sand Filter

PRESENT EFFLUENT QUALITY (MG/L):
BOD TSS NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .005

AVERAGE FLOW (MGD):

SEWER TYPE: Combined

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0038431
EFFECTIVE DATE: 7/8/75
INTERIM LIMIT, DATE: 2/1/77
EXPIRATION DATE: 12/31/79

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)	(1)	4
TSS (mg/l)	(1)	5
F COLI/100 ML	200	200
NH_3-N		

1) No numerical standard. Must Provide optimum operations and maintainence of existing plant

PLANNING AREAS

PLANNING AREA
201: Benton FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201): Benton

FPA MAP REFERENCE: Franklin A

COMPLIANCE SCHEDULE

Final plans	1/1/76
Begin const.	4/1/76
Comp. const.	1/1/77
Op. level	2/1/77

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

Benton Community Consolidated School Dist. #47

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Ziegler Royalton HS

MAP REFERENCE NO: 11
CONTROL NO: 1680
REGISTRATION NO: NZM 055 01
COUNTY: Franklin

BASIN: Big Muddy
SEGMENT: B-02

RECEIVING STREAM: Unnamed tributary to Prairie Ck., to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 1 Stage Lagoon

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	28	75	.85

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD): .013

AVERAGE FLOW (MGD):

SEWER TYPE:

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL Application not filed
EFFECTIVE DATE:
INTERIM LIMIT, DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		4
TSS (mg/l)		5
F COLI/100 ML		200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201:
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Franklin A

COMPLIANCE SCHEDULE

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Ziegler STW

MAP REFERENCE NO: 10
CONTROL NO: 1677
REGISTRATION NO: N 055 04
COUNTY: Franklin

BASIN: Big Muddy
SEGMENT: B-02

RECEIVING STREAM: Unnamed tributary to Big Muddy

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 1 Stage lagoon

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	10	61	1.99

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .235

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0023299
EFFECTIVE DATE: 1/15/74
INTERIM LIMIT, DATE: 7/1/77
EXPIRATION DATE: 12/31/78

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)	30	4
TSS (mg/l)	37	5
F COLI/100 ML		200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Ziegler FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Franklin A

COMPLIANCE SCHEDULE

Final plans	6/30/75
Begin const.	12/31/75
Comp. const.	6/30/77
Op. level	6/30/77

GRANT INFORMATION

PROJECT DESCRIPTION:	PROJECT NO:
22	C17 1876
22	C17 1876

TOTAL COST:	PRIORITY RANK:
$206,700	FY 76 1148
206,700	FY 76 779

COMMENTS

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Apostolic Church RT 13 N

MAP REFERENCE NO: 16
CONTROL NO: 1027
REGISTRATION NO: NCA 077 02
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: B-03

RECEIVING STREAM: Subsurface

STREAM 7-DAY 10-YEAR LOW FLOW (CFS):

FACILITY INFORMATION

TREATMENT TYPE: 3-cell non-discharge lagoon system

PRESENT EFFLUENT QUALITY (MG/L):
BOD TSS NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .006

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL
EFFECTIVE DATE:
INTERIM LIMIT. DATE:
EXPIRATION DATE:

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD		
TSS		
F COLI/100 ML		
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Murphysboro FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson B

GRANT INFORMATION

PROJECT DESCRIPTION:

PROJECT NO:

TOTAL COST:

PRIORITY RANK:

COMMENTS

Non-discharging system
NPDES not required

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Bakers Slaughtering

MAP REFERENCE NO: 17
CONTROL NO: 1037
REGISTRATION NO: NC 077 08
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: B-03

RECEIVING STREAM: Subsurface

STREAM 7-DAY 10-YEAR LOW FLOW (CFS):

FACILITY INFORMATION

TREATMENT TYPE: Grease & Solids Removal
Non-discharge lagoon
(rapid infiltration)

PRESENT EFFLUENT QUALITY (MG/L):
BOD TSS NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD):

AVERAGE FLOW (MGD):

SEWER TYPE:

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL
EFFECTIVE DATE:
INTERIM LIMIT. DATE:
EXPIRATION DATE:

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD		
TSS		
F COLI/100 ML		
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Murphysboro FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson B

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

NPDES unnecessary

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Country Village Tr. Pk

MAP REFERENCE NO: 8
CONTROL NO: 1155
REGISTRATION NO: N 077 08
COUNTY: Jackson

BASIN: Big Muddy

SEGMENT: B-03

RECEIVING STREAM: Ditch to Carbon Lake To Big Muddy

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 3 Stage Lagoon

PRESENT EFFLUENT QUALITY (MG/L):
BOD TSS NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .017

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0038164
EFFECTIVE DATE: 6/30/75
INTERIM LIMIT, DATE:
EXPIRATION DATE: 2/28/77

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		50
TSS (mg/l)		50
F COLI/100 ML		200
NH_3-N		
p (mg/l)		.05

PLANNING AREAS

PLANNING AREA
201: Murphysboro FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson B

COMPLIANCE SCHEDULE

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

Intermittent discharge

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Fairway Mobile Home

MAP REFERENCE NO: 2
CONTROL NO: 1227
REGISTRATION NO: N 077 13
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: B-03

RECEIVING STREAM: Ditch to Big Muddy

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 3 Stage Lagoon
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	30	89	6.40

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .007

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0045306
EFFECTIVE DATE: 7/9/75
INTERIM LIMIT. DATE: 1/31/77
EXPIRATION DATE: 3/1/80

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/1)	30	4
TSS (mg/1	30	5
F COLI/100 ML	200	200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Carbondale FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson B

COMPLIANCE SCHEDULE

Final plans	1/1/76
Begin const.	4/1/76
Comp. const.	1/1/77
Op. level	2/1/77

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Fairway Vista Murdale WD

MAP REFERENCE NO: 5
CONTROL NO: 1228
REGISTRATION NO: NZL 077 02
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: B-03

RECEIVING STREAM: Tributary, Mud Creek, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 1 Stage Lagoon

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	32	67	1.09

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .011

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL Application not filed
EFFECTIVE DATE:
INTERIM LIMIT. DATE:
EXPIRATION DATE:
Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/1)		4
TSS (mg/1)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Murphysboro FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson B

COMMENTS

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Gorham SD SW

MAP REFERENCE NO: 13
CONTROL NO: 1258
REGISTRATION NO: NZH 077 01
COUNTY: Jackson

BASIN: Big Muddy

SEGMENT: B-03

RECEIVING STREAM: Ditch, Worthen Bayou to Mud Creek, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 3 Stage Lagoon
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	32	365	.78

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .074

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: Frequent

PERMIT INFORMATION

NPDES #IL Application not filed
EFFECTIVE DATE:
INTERIM LIMIT, DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		4
TSS (mg/l)		5
F COLI/100 ML		200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Gorham FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson A

COMPLIANCE SCHEDULE

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Grand Tower Lagoon

MAP REFERENCE NO: 14
CONTROL NO: 1259
REGISTRATION NO: N 077 06
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: B-03

RECEIVING STREAM: Unnamed drainage to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 1 Stage Lagoon

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	21	42	4.3

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .110

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0029033
EFFECTIVE DATE: 12/15/74
INTERIM LIMIT. DATE: *
EXPIRATION DATE: 4/30/77

*Dependent on auxiliary funding

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)	30	4
TSS (mg/l)	50	5
F COLI/100 ML		200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Grand Tower FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson D

COMPLIANCE SCHEDULE

Final plans 6 mos. after Step II
Begin const. 3 mos after Step III
Comp. const. 6 mos. after begin.
Op. level 1 mo. after comp.

GRANT INFORMATION

PROJECT DESCRIPTION:	PROJECT NO:
22	C171610
4810	C171597

TOTAL COST:	PRIORITY RANK:
$327,300	FY 76 1121
142,700	FY 76 833

COMMENTS

Lagoon exemption granted 4/12/73 for 30/30

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Hillcrest Village STW

MAP REFERENCE NO: 7
CONTROL NO: 1280
REGISTRATION NO: N 077 14
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: B-03

RECEIVING STREAM: Unnamed drainage to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Septic Tank
Recirculating Sand Filter
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	135	1029	23.06

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .004

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0048500 (draft)
EFFECTIVE DATE:
INTERIM LIMIT. DATE:
EXPIRATION DATE:
Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		4
TSS (mg/l)		5
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Murphysboro FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson B

COMMENTS

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Jackson Country Club

MAP REFERENCE NO: 3
CONTROL NO: 1303
REGISTRATION NO: N 077 03
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: B-03

RECEIVING STREAM: Ditch to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Septic Tank
Recirculation Sand Filter
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	11	18	1.26

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD): .004

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0038521
EFFECTIVE DATE: 7/18/75
INTERIM LIMIT. DATE: 1/31/77
EXPIRATION DATE: 2/1/80

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)	20	4
TSS (mg/l)	25	5
F COLI/100 ML	200	200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Carbondale FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson B

COMPLIANCE SCHEDULE

Final plans	1/1/76
Begin const.	4/1/76
Comp. const.	1/1/77
Op. level	2/1/77

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Lake Chautauqua Subd

MAP REFERENCE NO: 4
CONTROL NO: 1431
REGISTRATION NO: NZL 077 01
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: B-03

RECEIVING STREAM: Tributary to Mud Creek, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 3 Stage aerated lagoon
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	2	34	.43

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .035

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0045705
EFFECTIVE DATE: 7/9/75
INTERIM LIMIT, DATE:
EXPIRATION DATE: 12/31/79

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		30
TSS (mg/l)		30
F COLI/100 ML		200
NH_3-N		

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201:
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson C

COMMENTS

Lagoon exemption granted 11/27/72

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Lake Murphysboro St. Pk.
MAP REFERENCE NO: 12
CONTROL NO: 1353
REGISTRATION NO: N 077 15
COUNTY: Jackson
BASIN: Big Muddy
SEGMENT: B-03

RECEIVING STREAM: Tributary to Big Muddy

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Imhoff
Sand Filter
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):
BOD TSS NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .01

AVERAGE FLOW (MGD):

SEWER TYPE:

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL Application not filed
EFFECTIVE DATE:
INTERIM LIMIT. DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/1)		4
TSS (mg/1)		5
F COLI/100 ML		200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201:
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson B

COMPLIANCE SCHEDULE

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

Ill. Cons. Dept.

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Leady H Development

MAP REFERENCE NO: 9
CONTROL NO: 1359
REGISTRATION NO: NZK 077 01
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: B-03

RECEIVING STREAM: Ditch to Lewis Creek, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: 3 Stage lagoon
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

	BOD	TSS	NH_3-N
1974 MEAN	54	185	55.0

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD): .004

AVERAGE FLOW (MGD):

SEWER TYPE: Combined

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0046124
EFFECTIVE DATE: 7/23/75
INTERIM LIMIT, DATE: 10/31/76
EXPIRATION DATE: 4/30/80

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)	60	4
TSS (mg/l)	60	5
F COLI/100 ML	200	200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201:
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson C

COMPLIANCE SCHEDULE

Final plans	12/1/75
Begin const.	4/1/76
Comp. const.	10/1/76
Op. level	11/1/76

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME McBride Tr. Pk

MAP REFERENCE NO: 6
CONTROL NO: 1389
REGISTRATION NO: N 077 10
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: B-03

RECEIVING STREAM: Tributary to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Single Stage Lagoon

PRESENT EFFLUENT QUALITY (MG/L):
BOD TSS NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .004

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL Application not filed
EFFECTIVE DATE:
INTERIM LIMIT, DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/1)		4
TSS (mg/1)		5
F COLI/100 ML		200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Murphysboro FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson C

COMPLIANCE SCHEDULE

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Murphysboro #002

MAP REFERENCE NO: 11
CONTROL NO: 1432
REGISTRATION NO: N 077 01
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: B-03

RECEIVING STREAM: Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 36.65

FACILITY INFORMATION

TREATMENT TYPE: Primary
Trickling Filter
Chlorination
Storm Water Holding Pond

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	26	36.1	7.74

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): 1.36

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0023248
EFFECTIVE DATE: 12/8/74
INTERIM LIMIT. DATE: 7/1/75
EXPIRATION DATE: 7/31/76

EFFLUENT LIMITATIONS:
002

	INTERIM	FINAL
BOD (mg/l)	30	20
TSS (mg/l)	35	25
F COLI/100 ML		200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Murphysboro FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson B

COMPLIANCE SCHEDULE

Operation level 10/1/75

001 + 003 eliminated

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

002 will be main discharge

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Southern Ill Airport

MAP REFERENCE NO: 1
CONTROL NO: 1555
REGISTRATION NO: N 077 02
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: B-03

RECEIVING STREAM: Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 32.1

FACILITY INFORMATION

TREATMENT TYPE: Extended aeration
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	193	242	48.72

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD): .003

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY: Frequent

PERMIT INFORMATION

NPDES #IL Application not filed
EFFECTIVE DATE:
INTERIM LIMIT, DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		30
TSS (mg/l)		30
F COLI/100 ML		200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Carbondale FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson B

COMPLIANCE SCHEDULE

GRANT INFORMATION

PROJECT DESCRIPTION:

PROJECT NO:

TOTAL COST:

PRIORITY RANK:

COMMENTS

OPERATOR CERTIFICATION

PRESENT:

NEEDED:

POINT SOURCE INFORMATION

NAME Suburban Trailer

MAP REFERENCE NO: 10
CONTROL NO: 1579
REGISTRATION NO: N 077 11
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: B-03

RECEIVING STREAM: Ditch to unnamed Creek, to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Septic Tank
Sand Filter

PRESENT EFFLUENT QUALITY (MG/L):

1974 MEAN	BOD	TSS	NH_3-N
	43	6	2.09

CONSTITUENTS IN EXCESS OF IPCB CRITERIA: FC

DESIGN AVERAGE FLOW (MGD): .003

AVERAGE FLOW (MGD):

SEWER TYPE: Separate

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL Application not filed
EFFECTIVE DATE:
INTERIM LIMIT, DATE:
EXPIRATION DATE:

Derived from chapter 3

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		4
TSS (mg/l)		5
F COLI/100 ML		200
NH_3-N		

PLANNING AREAS

PLANNING AREA
201: Murphysboro FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson C

COMPLIANCE SCHEDULE

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

COMMENTS

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

POINT SOURCE INFORMATION

NAME Veach Oil Co.

MAP REFERENCE NO: 18
CONTROL NO: 1622
REGISTRATION NO N 077 07
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: B-03

RECEIVING STREAM: Ditch to Big Muddy

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Extended aeration
Sand Filter
Chlorination

PRESENT EFFLUENT QUALITY (MG/L):
BOD TSS NH_3-N

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

DESIGN AVERAGE FLOW (MGD): .002

AVERAGE FLOW (MGD):

SEWER TYPE: Combined

OVERFLOW FREQUENCY:

PERMIT INFORMATION

NPDES #IL 0037434
EFFECTIVE DATE: 7/23/75
INTERIM LIMIT, DATE:
EXPIRATION DATE: 3/31/80

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
BOD (mg/l)		4
TSS (mg/l)		5
F COLI/100 ML		200
NH_3-N	rule	203

COMPLIANCE SCHEDULE

PLANNING AREAS

PLANNING AREA
201: Murphysboro FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson B

COMMENTS

Gas station and restuarant

GRANT INFORMATION

PROJECT DESCRIPTION: PROJECT NO:

TOTAL COST: PRIORITY RANK:

OPERATOR CERTIFICATION

PRESENT: NEEDED:

WPC-141-PSS

1/23/76

ADDITIONAL WASTEWATER SOURCES IN FRANKLIN COUNTY AS SHOWN ON MAP II

Name	Type of Facility	Registration or Facility No.	Basin	Segment	Map No.
Cities Water Co. Royalton	PWS*	0285030	Big Muddy	B-02	19
Franklin County Rend Lake Inter-City Wtr System	PWS*	0285100	Big Muddy	B-01	12
Freeman Coal Office-Dom	Mine	NH 055 02	Big Muddy	A-01	18
Freeman United Coal Mining Orient #5 Mine-Outfall 004	Mine	NH 055 03	Big Muddy	A-01	17
Old Ben Coal Co. No. 24 Mine 001	Mine	NZP 055 --	Big Muddy	B-02	13
Old Ben Coal Co. No. 24 Mine 002	Mine	N 055 --	Big Muddy	B-02	14
Old Ben Mine #21 001	Mine	NZS 055 --	Big Muddy	B-01	63
Old Ben Mine #25	Mine	NHB 055 --	Big Muddy	A-01	16
Old Ben Mine #26	Mine	NZR 055 --	Big Muddy	B-01	11
Wiggs at Benton	Landfill	05580203	Big Muddy	B-02	15

* Surface water supply

ADDITIONAL WASTEWATER SOURCES IN JACKSON COUNTY AS SHOWN ON MAP 11

Name	Type of Facility	Registration or Facility No.	Basin	Segment	Map No.
Bryant & Graff at DeSoto	Landfill	07702001	Big Muddy	A-04	53
Carbondale	PWS*	0390150	Big Muddy	A-07	58
Consolidation Coal Co. Burning Star #5 Area BS 5-1	Mine	NE 077 --	Big Muddy	A-03	29
Consolidation Coal Co. Burning Star #5 Area BS 5-2	Mine	NE 077 --	Big Muddy	A-03	28
Consolidation Coal Co. Burning Star #5 Area BS 5-3	Mine	NE 077 --	Big Muddy	A-03	30
Consolidation Coal Co. Burning Star #5 Area BS 5-4 Discharges 001-005	Mine	NE 077 --	Big Muddy	B-02	31
Consolidation Coal Co. Burning Star #5 Area BS 5-5 Discharges 001-005	Mine	NE 077 --	Big Muddy	A-03	27
Consolidation Coal Co. Burning Star #5 Area BS 5-6 Discharges 001-005	Mine	NE 077 --	Big Muddy	A-03	26
Gorham	PWS	0390350	Big Muddy	B-03	33

* Surface water supply

ADDITIONAL WASTEWATER SOURCES IN JACKSON COUNTY AS SHOWN ON MAP II

Name	Type of Facility	Registration or Facility No.	Basin	Segment	Map No.
Bryant & Graff at DeSoto	Landfill	07702001	Big Muddy	A-04	53
Carbondale	PWS*	0390150	Big Muddy	A-07	58
Consolidation Coal Co. Burning Star #5 Area BS 5-1	Mine	NE 077 --	Big Muddy	A-03	29
Consolidation Coal Co. Burning Star #5 Area BS 5-2	Mine	NE 077 --	Big Muddy	A-03	28
Consolidation Coal Co. Burning Star #5 Area BS 5-3	Mine	NE 077 --	Big Muddy	A-03	30
Consolidation Coal Co. Burning Star #5 Area BS 5-4 Discharges 001-005	Mine	NE 077 --	Big Muddy	B-02	31
Consolidation Coal Co. Burning Star #5 Area BS 5-5 Discharges 001-005	Mine	NE 077 --	Big Muddy	A-03	27
Consolidation Coal Co. Burning Star #5 Area BS 5-6 Discharges 001-005	Mine	NE 077 --	Big Muddy	A-03	26
Gorham	PWS	0390350	Big Muddy	B-03	33

ADDITIONAL WASTEWATER SOURCES IN JEFFERSON COUNTY AS SHOWN ON MAP II

Name	Type of Facility	Registration or Facility No.	Basin	Segment	Map No.
Freeman United Coal Co. Orient Mine #3	Mine	NZU 081 03	Big Muddy	B-01	6
Freeman United Coal Co. Orient Mine #6 Discharge-002	Mine	NZU 081 04	Big Muddy	B-01	8
Freeman United Coal Co. Orient #6 New Portal-003	Mine	N 081 --	Big Muddy	B-01	7
Inland Steel Co. Inland Mine	Mine	N 081 --	Big Muddy	B-01	9
Mt. Vernon	PWS*	0410300	Big Muddy	B-01	1
Mt. Vernon/Muni #3	Landfill	08180204	Big Muddy	B-01	4
Muni #2 at Mt. Vernon	Landfill	08180201	Big Muddy	B-01	3
Robertson and Associates Eads Mine Area 001 Discharge 001	Mine	CAGC 081 --	Wabash	A-08	121
Robertson and Associates Eads Mine Area 001 Discharge 002	Mine	CAGC 081 --	Wabash	A-08	122
Robertson and Associates Eads Mine Area 001 Discharge 003, 004	Mine	CAGC 081 --	Wabash	A-08	123

* Surface water supply

ADDITIONAL WASTEWATER SOURCES IN PERRY COUNTY AS SHOWN ON MAP II

Name	Type of Facility	Registration or Facility No.	Basin	Segment	Map No.
Amax Coal Co. Leahy Mine Discharge 001	Mine	NCDA 145 --	Big Muddy	A-04	50
Amax Coal Co. Leahy Mine Discharge 002	Mine	NCDA 145 --	Big Muddy	A-04	51
Amax Coal Co. Leahy Mine Discharge 003	Mine	NCDA 145 --	Big Muddy	A-04	52
Amax Coal Co. Leahy Mine Discharge 004	Mine	NCDA 145 --	Big Muddy	A-04	48
Amax Coal Co. Leahy Mine Discharge 005	Mine	NCDA 145 --	Big Muddy	A-04	49
Co Bd Com at DuQuoin Tp	Landfill	14583301	Big Muddy	A-04	45
Consolidation Coal Co. Burning Star Mine #2 (Discharge BS 2-2)	Mine	NC 145 --	Big Muddy	A-04	41
Consolidation Coal Co. Burning Star Mine #2 (Discharge BS 2-1 001)	Mine	NCI 145 --	Big Muddy	A-04	43
Consolidation Coal Co. Burning Star Mine #2 (Discharge BS 2-43)	Mine	NEB 145 --	Big Muddy	A-03	23

ADDITIONAL WASTEWATER SOURCES IN PERRY COUNTY AS SHOWN ON MAP II

Name	Type of Facility	Registration or Facility No.	Basin	Segment	Map No.
Consolidation Coal Co. Burning Star Mine #2 (Discharge BS 2-49)	Mine	NCD 145 --	Big Muddy	A-04	62
Consolidation Coal Co. Burning Star Mine #2 (Discharge BS ZP-13)	Mine	NCH 145 --	Big Muddy	A-04	42
Consolidation Coal Co. Burning Star Mine #4 (Discharge BS 4-1)	Mine	NCD 145 --	Big Muddy	A-04	39
Consolidation Coal Co. Burning Star Mine #4 (Discharge BS 4-8)	Mine	NCD 145 02	Big Muddy	A-04	36
Freeman United Coal Mining Corp Fidelity Mine #11 (Discharge 001)	Mine	NC 145 --	Big Muddy	A-04	46
Freeman United Coal Mining Corp Fidelity Mine #11 (Discharge 003)	Mine	NC 145 --	Big Muddy	A-04	47
Freeman United Coal Mining Corp Fidelity Mine #11 (Discharge 004)	Mine	NCE 145 --	Big Muddy	A-04	44
Gypsy Hill Beef and Feed Inc. (DuQuoin)	Feedlot	NEB 145 08	Big Muddy	A-03	24

ADDITIONAL WASTEWATER SOURCES IN PERRY COUNTY AS SHOWN ON MAP II

Name	Type of Facility	Registration or Facility No.	Basin	Segment	Map No.
Peabody Coal Co. Majestic Mine #14	Mine	NEB 145 --	Big Muddy	A-03	25
Pinckneyville	PWS*	0730150	Big Muddy	A-04	40
Southwestern Il. Coal Corp. Captain Mine-Discharge 002	Mine	NCDA 145 --	Big Muddy	A-04	38
Southwestern Il. Coal Corp. Captain Mine-Discharge 003	Mine	NCD 145 --	Big Muddy	A-04	37
Southwestern Il. Coal Corp. Streamline #001	Mine	NCDD 145 --	Big Muddy	A-04	35

* Surface water supply

ADDITIONAL WASTEWATER SOURCES IN UNION COUNTY AS SHOWN ON MAP II

Name	Type of Facility	Registration or Facility No.	Basin	Segment	Map No.
Alto Pass	PWS*	0910100	Big Muddy	A-09	60
Cobden	PWS	0910150	Ohio	B-03	1
Dongola	PWS*	0910200	Mississippi South	A-01	19
Muni. Landfill at Anna	Landfill	18185201	Mississippi South	A-01	25
State of Illinois Anna State Hospital	PWS*	0915500	Mississippi South	A-01	17
Union County Anna Jonesboro Water Commission	PWS	0915050	Mississippi South	A-01	18

* Surface water supply

ADDITIONAL WASTEWATER SOURCES IN WASHINGTON COUNTY AS SHOWN ON MAP II

Name	Type of Facility	Registration or Facility No.	Basin	Segment	Map No.
Ashley	PWS*	0950100	Big Muddy	B-01	2
Barr at Nashville	Landfill	18903002	Big Muddy	A-04	61
Municipal at Dubois	Landfill	18901501	Big Muddy	A-03	22
Municipal at Nashville	Landfill	18903001	Kaskaskia	A-02	64
Nashville	PWS*	0950300	Kaskaskia	A-02	65
Okawville	PWS	0950400	Kaskaskia	B-05	68

* Surface water supply

ADDITIONAL WASTEWATER SOURCES IN WILLIAMSON COUNTY AS SHOWN ON MAP II

Name	Type of Facility	Registration or Facility No.	Basin	Segment	Map No.
Amax Coal Co Delta Mine #001	Mine	ATGC 199 --	Ohio	A-02	25
Amax Coal Co Delta Mine #002	Mine	ATH 199 --	Ohio	A-03	23
Amax Coal Co Delta Mine #003	Mine	ATH 199 --	Ohio	A-03	22
Cannon at Marion	Landfill	19986203	Big Muddy	A-05	57
Carterville Allen	Landfill	19901503	Big Muddy	A-07	34
Freeman Coal Mining Co. Orient #4 (001, 002)	Mine	NGA 199 06	Big Muddy	A-02	20
Freeman Coal Mining Co. Orient #4 (004)	Mine	NGA 199 --	Big Muddy	A-02	20
Freeman Coal Mining Co. Orient #4 (005, 006)	Mine	NGA 199 --	Big Muddy	A-02	20
Harrisburg Coal Co Mine #1	Mine	ATGC 199 03	Ohio	A-02	21
Hindman at Herrin	Landfill	19985802	Big Muddy	B-02	32
Jader Mine #2 Pit #1	Mine	ATGC 199 --	Ohio	A-02	56
Marion	PWS*	1000550	Big Muddy	A-05	55
Municipal at Herrin	Landfill	19985801	Big Muddy	A-02	21

ADDITIONAL WASTEWATER SOURCES IN WILLIAMSON COUNTY AS SHOWN ON MAP II

Name	Type of Facility	Registration or Facility No.	Basin	Segment	Map No.
Muni #2 at Marion	Landfill	19986210	Big Muddy	A-05	56
Western Mining Corp #1 Discharge 001, 002	Mine	ATHE 199 01	Ohio	A-03	27

* Surface water supply

MINE RELATED INFORMATION

NAME Freeman Coal Office
DOM

MAP REFERENCE NO: 18
CONTROL NO: 1238
REGISTRATION NO: NH 055 02
COUNTY: Franklin

BASIN: Big Muddy
SEGMENT: A-01

RECEIVING STREAM: Middle Fork of Big Muddy R.

STREAM 7-DAY, 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE:

PRESENT EFFLUENT QUALITY (MG/L):
TSS TDS IRON ALKALI ACID pH

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

AVERAGE FLOW (MGD):

MINING INFORMATION

TYPE OF MINE:

METHOD OF MINING:

METHOD OF REFUSE DISPOSAL:

RECLAMATION PRACTICES:

ANNUAL PRODUCTION (TONS):

YEAR OPERATION STARTED:

PUBLIC WATER SUPPLIES WITHIN 10 MILES:

PLANNING AREAS

PLANNING AREA
201:
208:

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE:

PERMIT INFORMATION

NPDES #IL
EFFECTIVE DATE:
INTERIM LIMIT. DATE:
EXPIRATION DATE:

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
TSS (MG/L)		
IRON TOTAL (MG/L)		
TDS (MG/L)		
ALKALINITY		
pH		

COMPLIANCE SCHEDULE

COMMENTS

3/31/76

MINE RELATED INFORMATION

NAME Freeman United Coal Mining Orient #5 Mine Outfall 004

MAP REFERENCE NO: 17
CONTROL NO: 9640
REGISTRATION NO: NH 055 03
COUNTY: Franklin

BASIN: Big Muddy
SEGMENT: A-01

RECEIVING STREAM: Trib. to Middle Fork to Big Muddy R.

STREAM 7-DAY, 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Lime neutralization & settling

PRESENT EFFLUENT QUALITY (MG/L):
TSS TDS IRON ALKALI ACID pH

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

AVERAGE FLOW (MGD): .15 runoff from gob pile & mine area

MINING INFORMATION

TYPE OF MINE: Coal

METHOD OF MINING: Underground

METHOD OF REFUSE DISPOSAL:

RECLAMATION PRACTICES:

ANNUAL PRODUCTION (TONS):

YEAR OPERATION STARTED:

PUBLIC WATER SUPPLIES WITHIN 10 MILES:

PLANNING AREAS

PLANNING AREA
201:
208: GERP&DC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Franklin B

PERMIT INFORMATION

NPDES #IL 0004693
EFFECTIVE DATE: 7/6/75
INTERIM LIMIT. DATE:
EXPIRATION DATE: 4/1/80

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
TSS (MG/L)		30
IRON TOTAL (MG/L)		4
TDS (MG/L)		Rule 203
ALKALINITY	Greater than acidity	
pH		6-9

COMPLIANCE SCHEDULE

COMMENTS

IL. Operating Permit # 1975-NP-1961-OP

Mine to be reopened 7/75

3/31/76

MINE RELATED INFORMATION

NAME Old Ben Mine #25

MAP REFERENCE NO: 16
CONTROL NO:
REGISTRATION NO: NHB 055 --
COUNTY: Franklin

BASIN: Big Muddy

SEGMENT: A-01

RECEIVING STREAM: Unnamed trib. to Ewing Ck. to Middle Fork to Big Muddy R.

STREAM 7-DAY, 10-YEAR LOW FLOW (CFS):

FACILITY INFORMATION

TREATMENT TYPE:

PRESENT EFFLUENT QUALITY (MG/L):
TSS TDS IRON ALKALI ACID pH

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

AVERAGE FLOW (MGD):

MINING INFORMATION

TYPE OF MINE:

METHOD OF MINING:

METHOD OF REFUSE DISPOSAL:

RECLAMATION PRACTICES:

ANNUAL PRODUCTION (TONS):

YEAR OPERATION STARTED:

PUBLIC WATER SUPPLIES WITHIN 10 MILES:

PLANNING AREAS

PLANNING AREA
201:
208:

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE:

PERMIT INFORMATION

NPDES #IL 0049271
EFFECTIVE DATE: 3/18/76
INTERIM LIMIT. DATE:
EXPIRATION DATE: 10/31/80

EFFLUENT LIMITATIONS:

001

	INTERIM	FINAL
TSS (MG/L)		35
IRON TOTAL (MG/L)		3.5
TDS (MG/L)		
ALKALINITY	Greater than acidity	
PH		
TDS		Rule 203

COMPLIANCE SCHEDULE

COMMENTS

Not yet in use

3/31/76

MINE RELATED INFORMATION

NAME Freeman Coal Mining Co.
Orient #4 Mine (001, 002)

MAP REFERENCE NO: 20
CONTROL NO: 9639
REGISTRATION NO: NGA 199 06
COUNTY: Williamson

BASIN: Big Muddy
SEGMENT: A-02

RECEIVING STREAM: Lake Ck. to Pond Ck.

STREAM 7-DAY, 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE:

PRESENT EFFLUENT QUALITY (MG/L):
TSS TDS IRON ALKALI ACID pH

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

AVERAGE FLOW (MGD):

PERMIT INFORMATION

NPDES #IL 0004685
EFFECTIVE DATE: 6/30/75
INTERIM LIMIT. DATE:
EXPIRATION DATE: 6/30/77

EFFLUENT LIMITATIONS:

001, 002

	INTERIM	FINAL
TSS (MG/L)		15 DM
IRON TOTAL (MG/L)		2 DM
TDS (MG/L)		3500 DM
ALKALINITY	Greater than acidity	
pH		
Oil & grease (mg/l)		10 DA

COMPLIANCE SCHEDULE

MINING INFORMATION

TYPE OF MINE:

METHOD OF MINING:

METHOD OF REFUSE DISPOSAL:

RECLAMATION PRACTICES:

ANNUAL PRODUCTION (TONS):

YEAR OPERATION STARTED:

PUBLIC WATER SUPPLIES WITHIN 10 MILES:

COMMENTS

PLANNING AREAS

PLANNING AREA
201:
208:

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE:

3/31/76

MINE RELATED INFORMATION

NAME Freeman Coal Mining Co.
Orient #4 Mine (004)

MAP REFERENCE NO: 20
CONTROL NO: 9639
REGISTRATION NO: NGA 199 --
COUNTY: Williamson

BASIN: Big Muddy

SEGMENT: A-02

RECEIVING STREAM: Lake Ck. to Pond Ck.

STREAM 7-DAY, 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE:

PRESENT EFFLUENT QUALITY (MG/L):
TSS TDS IRON ALKALI ACID pH

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

AVERAGE FLOW (MGD):

MINING INFORMATION

TYPE OF MINE: Coal

METHOD OF MINING:

METHOD OF REFUSE DISPOSAL:

RECLAMATION PRACTICES:

ANNUAL PRODUCTION (TONS):

YEAR OPERATION STARTED:

PUBLIC WATER SUPPLIES WITHIN 10 MILES:

PLANNING AREAS

PLANNING AREA
201:
208:

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE:

PERMIT INFORMATION

NPDES #IL 0025771
EFFECTIVE DATE: 5/28/75
INTERIM LIMIT. DATE: 10/31/75
EXPIRATION DATE: 3/31/78

EFFLUENT LIMITATIONS:
004

	INTERIM	FINAL
TSS (MG/L)	30	30
IRON TOTAL (MG/L)		
TDS (MG/L)		
ALKALINITY		
pH		
BOD (mg/l)	40	30
F COLI/100 ml		200

COMPLIANCE SCHEDULE

COMMENTS

Sanitary waste discharge

MINE RELATED INFORMATION

NAME Freeman Coal Mining Co.
Orient #4 Mine (005, 006)

MAP REFERENCE NO: 20
CONTROL NO: 9639
REGISTRATION NO: NGA 199 --
COUNTY: Williamson

BASIN: Big Muddy
SEGMENT: A-02

RECEIVING STREAM: Lake Ck. to Pond Ck.

STREAM 7-DAY, 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE:

PRESENT EFFLUENT QUALITY (MG/L):
TSS TDS IRON ALKALI ACID pH

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

AVERAGE FLOW (MGD):

PERMIT INFORMATION

NPDES #IL 0004685
EFFECTIVE DATE: 6/30/75
INTERIM LIMIT. DATE: 12/31/75
EXPIRATION DATE: 6/30/77

EFFLUENT LIMITATIONS:

005, 006

	INTERIM	FINAL
TSS (MG/L)	30	30
IRON TOTAL (MG/L)	7(DM)	4(DA)
TDS (MG/L)	4000(DA)	2500(DM)
ALKALINITY	Greater than acidity	
pH		

COMPLIANCE SCHEDULE

MINING INFORMATION

TYPE OF MINE:

METHOD OF MINING:

METHOD OF REFUSE DISPOSAL:

RECLAMATION PRACTICES:

ANNUAL PRODUCTION (TONS):

YEAR OPERATION STARTED:

PUBLIC WATER SUPPLIES WITHIN 10 MILES:

COMMENTS

PLANNING AREAS

PLANNING AREA
201:
208:

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE:

3/31/76

SOLID WASTE INFORMATION

FACILITY NAME AND LOCATION:

Municipal Landfill at Herrin

MAP REFERENCE NO: 21
SITE CODE NO: 19985801
REGISTRATION NO:
COUNTY: Williamson

BASIN: Big Muddy

SEGMENT: A-02

ADJACENT STREAM(S): Hurricane Ck.

STREAM(S) 7 DAY, 10 YEAR LOW FLOW (CFS): 0

LANDFILL INFORMATION

TYPE OF REFUSE: Garbage

ANNUAL QUANTITY (CU. YDS.): 46,800

SITE AREA (ACRES): 201

LEACHATE QUALITY (MG/L):

FLOW (CFS):

PERMIT INFORMATION

IEPA# Application not filed

GEOLOGIC INFORMATION

UNDERLYING MATERIALS:

COEFFICIENT OF PERMEABILITY:

DEPTH OF AQUIFER:

GROUND WATER MOVEMENT:
DIRECTION:
RATE:

GENERAL INFORMATION

SITE TOPOGRAPHY: Strip Mine
SURROUNDING LAND USE:

GROUND WATER INFORMATION

MONITOR WELLS-WATER QUALITY (MG/L):

NO.	DATE	WL	CL	FE	TDS

NEARBY WATER SUPPLIES
LOCATION:
DEPTH:

COMMENTS

PLANNING AREAS

PLANNING AREA
201: Herrin FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Williamson - A

3/31/76

MINE RELATED INFORMATION

NAME Consolidation Coal Co.
Burning Star Mine #2
(Discharge BS 2-43)

MAP REFERENCE NO: 23
CONTROL NO: 9903
REGISTRATION NO: NEB 145 --
COUNTY: Perry

BASIN: Big Muddy

SEGMENT: A-03

RECEIVING STREAM: Trib. to Reese Ck. trib. to Little Muddy R.

STREAM 7-DAY, 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE:

PRESENT EFFLUENT QUALITY (MG/L):
TSS TDS IRON ALKALI ACID pH

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

AVERAGE FLOW (MGD): Pit pumpage and mine drainage

PERMIT INFORMATION

NPDES #IL 0000523 Draft
EFFECTIVE DATE:
INTERIM LIMIT. DATE:
EXPIRATION DATE:

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
TSS (MG/L)		
IRON TOTAL (MG/L)		
TDS (MG/L)		
ALKALINITY		
pH		

COMPLIANCE SCHEDULE

MINING INFORMATION

TYPE OF MINE: Coal

METHOD OF MINING: Strip

METHOD OF REFUSE DISPOSAL:

RECLAMATION PRACTICES:

ANNUAL PRODUCTION (TONS):

YEAR OPERATION STARTED:

PUBLIC WATER SUPPLIES WITHIN 10 MILES:

PLANNING AREAS

PLANNING AREA
201: Duquoin FPA
208: GERP&DC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Perry B

COMMENTS

3/31/76

MINE RELATED INFORMATION

NAME Consolidation Coal Co.
Burning Star #5
Discharge BS 5-1

MAP REFERENCE NO: 29
CONTROL NO:
REGISTRATION NO: NE 077 --
COUNTY: Jackson

BASIN: Big Muddy

SEGMENT: A-03

RECEIVING STREAM: Trib. to Little Muddy R.

STREAM 7-DAY, 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE:

PRESENT EFFLUENT QUALITY (MG/L):
TSS TDS IRON ALKALI ACID pH

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

AVERAGE FLOW (MGD): Pit pumpage & runoff

PERMIT INFORMATION

NPDES #IL 0034959 Draft
EFFECTIVE DATE:
INTERIM LIMIT. DATE:
EXPIRATION DATE:

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
TSS (MG/L)		30
IRON TOTAL (MG/L)		4
TDS (MG/L)		
ALKALINITY	Greater than acidity	
pH		6-9

COMPLIANCE SCHEDULE

MINING INFORMATION

TYPE OF MINE: Coal

METHOD OF MINING: Strip

METHOD OF REFUSE DISPOSAL:

RECLAMATION PRACTICES:

ANNUAL PRODUCTION (TONS): 50,000

YEAR OPERATION STARTED:

PUBLIC WATER SUPPLIES WITHIN 10 MILES:

COMMENTS

New proposed discharge

PLANNING AREAS

PLANNING AREA
201:
208:

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE:

MINE RELATED INFORMATION

NAME Consolidation Coal Co.
Burning Star #5
Discharge BS 5-2

MAP REFERENCE NO: 28
CONTROL NO:
REGISTRATION NO: NE 077 --
COUNTY: Jackson

BASIN: Big Muddy

SEGMENT: A-03

RECEIVING STREAM: Trib. to Little Muddy R.

STREAM 7-DAY, 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE:

PRESENT EFFLUENT QUALITY (MG/L):
TSS TDS IRON ALKALI ACID pH

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

AVERAGE FLOW (MGD): Pit pumpage & surface runoff

MINING INFORMATION

TYPE OF MINE: Coal

METHOD OF MINING: Strip

METHOD OF REFUSE DISPOSAL:

RECLAMATION PRACTICES:

ANNUAL PRODUCTION (TONS): 50,000

YEAR OPERATION STARTED:

PUBLIC WATER SUPPLIES WITHIN 10 MILES:

PLANNING AREAS

PLANNING AREA
201:
208:

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE:

PERMIT INFORMATION

NPDES #IL 0034967
EFFECTIVE DATE: 7/6/75
INTERIM LIMIT. DATE:
EXPIRATION DATE: 4/30/80

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
TSS (MG/L)		30
IRON TOTAL (MG/L)		4
TDS (MG/L)		Rule 203
ALKALINITY	Greater than acidity	
pH		6-9

COMPLIANCE SCHEDULE

COMMENTS

MINE RELATED INFORMATION

NAME Consolidation Coal Co.
Burning Star Mine #5
BS 5-3

MAP REFERENCE NO: 30
CONTROL NO: 9905
REGISTRATION NO: NE 077 --
COUNTY: Jackson

BASIN: Big Muddy

SEGMENT: A-03

RECEIVING STREAM: Little Muddy River

STREAM 7-DAY, 10-YEAR LOW FLOW (CFS):

FACILITY INFORMATION

TREATMENT TYPE: Settling pond

PRESENT EFFLUENT QUALITY (MG/L):
TSS TDS IRON ALKALI ACID PH

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

AVERAGE FLOW (MGD): .05 Pit pumpage

PERMIT INFORMATION

NPDES #IL 0034975
EFFECTIVE DATE: 7/6/75
INTERIM LIMIT. DATE:
EXPIRATION DATE: 4/30/80

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
TSS (MG/L)		30
IRON TOTAL (MG/L)		4
TDS (MG/L)		Rule 203
ALKALINITY	Greater than acidity	
PH		6-9

COMPLIANCE SCHEDULE

MINING INFORMATION

TYPE OF MINE: Coal

METHOD OF MINING: Strip

METHOD OF REFUSE DISPOSAL:

RECLAMATION PRACTICES:

ANNUAL PRODUCTION (TONS): 50,000

YEAR OPERATION STARTED:

PUBLIC WATER SUPPLIES WITHIN 10 MILES:

COMMENTS

IL. Permit #1975-MD-791

PLANNING AREAS

PLANNING AREA
201:
208: GERP&DC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson B

MINE RELATED INFORMATION

NAME Consolidation Coal Co.
Burning Star #5
Area BS 5-5
Discharges 001-005

MAP REFERENCE NO: 27
CONTROL NO: 9905
REGISTRATION NO: NE 077 --
COUNTY: Jackson

BASIN: Big Muddy

SEGMENT: A-03

RECEIVING STREAM: Unnamed trib. to Little Muddy R. STREAM 7-DAY, 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE:

PRESENT EFFLUENT QUALITY (MG/L):
TSS TDS IRON ALKALI ACID pH

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

AVERAGE FLOW (MGD): .05 Pit pumpage

MINING INFORMATION

TYPE OF MINE: Coal

METHOD OF MINING: Strip

METHOD OF REFUSE DISPOSAL:

RECLAMATION PRACTICES:

ANNUAL PRODUCTION (TONS): 50,000

YEAR OPERATION STARTED:

PUBLIC WATER SUPPLIES WITHIN 10 MILES:

PLANNING AREAS

PLANNING AREA
201:
208: GERP&DC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson B

PERMIT INFORMATION

NPDES #IL 0038504
EFFECTIVE DATE: 7/6/75
INTERIM LIMIT. DATE:
EXPIRATION DATE: 4/30/80

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
TSS (MG/L)		30
IRON TOTAL (MG/L)		4
TDS (MG/L)		Rule 203
ALKALINITY	Greater than acidity	
pH		6-9

COMPLIANCE SCHEDULE

COMMENTS

3/31/76

MINE RELATED INFORMATION

NAME Consolidation Coal Co.
Burning Star #5
Area BS 5-6
Discharges 001, 002, 003, 004, 005

MAP REFERENCE NO: 26
CONTROL NO: 9905
REGISTRATION NO: NE 077 --
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: A-03

RECEIVING STREAM: Unnamed trib. to Little Muddy R. STREAM 7-DAY, 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Settling pond

PRESENT EFFLUENT QUALITY (MG/L):
TSS TDS IRON ALKALI ACID pH

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

AVERAGE FLOW (MGD): .05 Pit pumpage

PERMIT INFORMATION

NPDES #IL 0038512
EFFECTIVE DATE: 7/6/75
INTERIM LIMIT. DATE:
EXPIRATION DATE: 4/30/80

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
TSS (MG/L)		30
IRON TOTAL (MG/L)		4
TDS (MG/L)		Rule 203
ALKALINITY	Greater than acidity	
pH		6-9

COMPLIANCE SCHEDULE

MINING INFORMATION

TYPE OF MINE: Coal

METHOD OF MINING: Strip

METHOD OF REFUSE DISPOSAL:

RECLAMATION PRACTICES:

ANNUAL PRODUCTION (TONS): 50,000

YEAR OPERATION STARTED:

PUBLIC WATER SUPPLIES WITHIN 10 MILES:

COMMENTS

PLANNING AREAS

PLANNING AREA
201:
208: GERP&DC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson B

3/31/76

MINE RELATED INFORMATION

NAME Freeman United Coal Co.
Orient Mine #3

MAP REFERENCE NO: 6
CONTROL NO: 9644
REGISTRATION NO: NZU 081 03
COUNTY: Jefferson

BASIN: Big Muddy
SEGMENT: A-03

RECEIVING STREAM: Various small tributaries to Rend Lake

STREAM 7-DAY, 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE:

PRESENT EFFLUENT QUALITY (MG/L):
TSS TDS IRON ALKALI ACID pH

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

AVERAGE FLOW (MGD): Various

MINING INFORMATION

TYPE OF MINE: Coal

METHOD OF MINING:

METHOD OF REFUSE DISPOSAL:

RECLAMATION PRACTICES:

ANNUAL PRODUCTION (TONS):

YEAR OPERATION STARTED:

PUBLIC WATER SUPPLIES WITHIN 10 MILES:

PLANNING AREAS

PLANNING AREA
201:
208:

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE:

PERMIT INFORMATION

NPDES #IL 0004677
EFFECTIVE DATE: 7/30/75
INTERIM LIMIT. DATE: 7/31/76
EXPIRATION DATE: 6/1/80

EFFLUENT LIMITATIONS:

002	INTERIM	FINAL
TSS (MG/L)		15
IRON TOTAL (MG/L)	2(DA)	2(DM)
TDS (MG/L)		3500
ALKALINITY	Greater than acidity	
PH		
Oil & grease (mg/l)		10(DA)
004, 006		
BOD (mg/l)	40	4
TSS (mg/l)	60	5
NH_3N (mg/l)		1.5
F COLI		200

COMPLIANCE SCHEDULE

COMMENTS

002 - Process water to Buck Ck.
004 - Dom to Bald Hill Ck.
006 - Dom to Norris Branch
001 - Uncontaminated storm water
003, 005 - Have been eliminated

LIVESTOCK WASTE INFORMATION

NAME Gypsy Hill Beef Feed - FL

MAP REFERENCE NO: 24
CONTROL NO: 1271
REGISTRATION NO: NEB 145 08
COUNTY: Perry

BASIN: Big Muddy
SEGMENT: A-03

RECEIVING STREAM: Reese's Creek

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

ANIMALS: 4500 beef cattle (approx. 7000/yr.)

HOUSING: 35% under roof; half of which has liquid manure system.

DRAINAGE AREA: 40 acres

DESIGN STORM: 5.6 inches/24 hrs.

WASTE HANDLING SYSTEM: Manure scraped off 2-3 times/yr. Runoff goes to three settling ponds, then to storage lagoon (5 ft. deep, 8 acres).

LAND AVAILABLE FOR FINAL DISPOSAL: 240 acres

PLANNING AREAS

PLANNING AREA
201: DuQuoin FPA
208: GERP & DC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Perry B

COMMENTS

Holding lagoon also receives liquid wastes from DuQuoin Packing Co.

Mixture sprayed onto land.

PERMIT INFORMATION

NPDES #IL 0000388
EFFECTIVE DATE: 4/14/74
INTERIM LIMIT DATE:
EXPIRATION DATE: 4/1/79

EFFLUENT LIMITATIONS:
Beginning 10/1/74

1. Permittee shall collect all process waste water. No discharge except for overflow from run off storage facility caused by rainfall in excess of 25 yr., 24-hr. rain (5.6 inches).

COMPLIANCE SCHEDULE

Begin plan	4/1/74
Complete plan	5/1/74
Let contract for construction of runoff control facility	6/1/74
Start construction	8/1/74
Complete const., begin operation	10/1/74

SOLID WASTE INFORMATION

FACILITY NAME AND LOCATION:

Municipal Landfill at Dubois

MAP REFERENCE NO: 22
SITE CODE NO: 18901501
REGISTRATION NO:
COUNTY: Washington

BASIN: Big Muddy

SEGMENT: A-03

ADJACENT STREAM(S): Little Muddy

STREAM(S) 7 DAY, 10 YEAR LOW FLOW (CFS): 0

LANDFILL INFORMATION

TYPE OF REFUSE: Garbage

ANNUAL QUANTITY (CU. YDS.): 250

SITE AREA (ACRES): 3

LEACHATE QUALITY (MG/L):

FLOW (CFS):

PERMIT INFORMATION

IEPA# 74-79

GEOLOGIC INFORMATION

UNDERLYING MATERIALS: Yellow clay

COEFFICIENT OF PERMEABILITY: $< 10^{-8}$

DEPTH OF AQUIFER: 16' to W.T.

GROUND WATER MOVEMENT:
DIRECTION:
RATE:

GENERAL INFORMATION

SITE TOPOGRAPHY: Level - rolling topo.
SURROUNDING LAND USE: Agricultural

GROUND WATER INFORMATION

MONITOR WELLS-WATER QUALITY (MG/L):

NO.	DATE	WL	CL	FE	TDS

NEARBY WATER SUPPLIES
LOCATION:
DEPTH:

COMMENTS

Natural attenuation

PLANNING AREAS

PLANNING AREA
201:
208:

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Washington B

MINE RELATED INFORMATION

NAME Peabody Coal Company
Majestic Mine #14

MAP REFERENCE NO: 25
CONTROL NO:
REGISTRATION NO: NEB 145 --
COUNTY: Perry

BASIN: Big Muddy
SEGMENT: A-03

RECEIVING STREAM: Reese Ck. to Little Muddy R. to Big Muddy R.

STREAM 7-DAY, 10-YEAR LOW FLOW (CFS):

FACILITY INFORMATION

TREATMENT TYPE:

PRESENT EFFLUENT QUALITY (MG/L):
TSS TDS IRON ALKALI ACID pH

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

AVERAGE FLOW (MGD):

PERMIT INFORMATION

NPDES #IL 0048810 Draft
EFFECTIVE DATE:
INTERIM LIMIT. DATE:
EXPIRATION DATE:

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
TSS (MG/L)		
IRON TOTAL (MG/L)		
TDS (MG/L)		
ALKALINITY		
pH		

COMPLIANCE SCHEDULE

MINING INFORMATION

TYPE OF MINE:

METHOD OF MINING:

METHOD OF REFUSE DISPOSAL:

RECLAMATION PRACTICES:

ANNUAL PRODUCTION (TONS):

YEAR OPERATION STARTED:

PUBLIC WATER SUPPLIES WITHIN 10 MILES:

COMMENTS

PLANNING AREAS

PLANNING AREA
201:
208:

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE:

3/31/76

MINE RELATED INFORMATION

NAME Amax Coal Co.
Leahy Mine
Discharge 001

MAP REFERENCE NO: 50
CONTROL NO: 9504
REGISTRATION NO: NCDA 145 --
COUNTY: Perry

BASIN: Big Muddy
SEGMENT: A-04

RECEIVING STREAM: Unnamed trib. of Brushy Fork Ck. to Pipestone Ck. to Galum Ck.

STREAM 7-DAY, 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Settling pond

PRESENT EFFLUENT QUALITY (MG/L):
TSS TDS IRON ALKALI ACID pH

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

AVERAGE FLOW (MGD): Overflow from fresh water pond 0.26 mgd

MINING INFORMATION

TYPE OF MINE: Coal

METHOD OF MINING: Strip

METHOD OF REFUSE DISPOSAL:

RECLAMATION PRACTICES:

ANNUAL PRODUCTION (TONS): 4.5

YEAR OPERATION STARTED: 1971

PUBLIC WATER SUPPLIES WITHIN 10 MILES:
Willisville, Cutler, Campbell Hill

PLANNING AREAS

PLANNING AREA
201:
208: GERP&DC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Perry A

PERMIT INFORMATION

NPDES #IL 0000337
EFFECTIVE DATE: 10/30/73
INTERIM LIMIT. DATE: 6/1/78
EXPIRATION DATE: 6/1/78

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
TSS (MG/L)		30
IRON TOTAL (MG/L)		4
TDS (MG/L)		
ALKALINITY	Greater than acidity	
pH		6-9

COMPLIANCE SCHEDULE

COMMENTS

Ill. Operating Permit
#1975-NP-1423-OP

Preparation plant

3/31/76

MINE RELATED INFORMATION

NAME Amax Coal Co.
Leahy Mine
Discharge 002

MAP REFERENCE NO: 51
CONTROL NO: 9504
REGISTRATION NO: NCDA 145 --
COUNTY: Perry

BASIN: Big Muddy
SEGMENT: A-04

RECEIVING STREAM: Trib. of Brushy Ck. trib. to Galum Ck.

STREAM 7-DAY, 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Pit pumpage settling pond

PRESENT EFFLUENT QUALITY (MG/L):

TSS	TDS	IRON	ALKALI	ACID	pH
1030		.4	50		

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

AVERAGE FLOW (MGD): Settling pond overflow .0758 mgd

MINING INFORMATION

TYPE OF MINE: Coal

METHOD OF MINING: Strip

METHOD OF REFUSE DISPOSAL:

RECLAMATION PRACTICES:

ANNUAL PRODUCTION (TONS): 4.5

YEAR OPERATION STARTED: 1971

PUBLIC WATER SUPPLIES WITHIN 10 MILES:

PLANNING AREAS

PLANNING AREA
201:
208: GERP&DC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Perry A

PERMIT INFORMATION

NPDES #IL 0033499
EFFECTIVE DATE: 10/30/73
INTERIM LIMIT. DATE:
EXPIRATION DATE: 6/1/78

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
TSS (MG/L)		30
IRON TOTAL (MG/L)		4
TDS (MG/L)		
ALKALINITY	Greater than acidity	
pH		6-9

COMPLIANCE SCHEDULE

COMMENTS

11. Operating Permit # 1975-NP-1424-OP

3/31/76

MINE RELATED INFORMATION

NAME Amax Coal Co.
Leahy Mine
Discharge 003

MAP REFERENCE NO: 52
CONTROL NO: 9504
REGISTRATION NO: NCDA 145 --
COUNTY: Perry

BASIN: Big Muddy
SEGMENT: A-04

RECEIVING STREAM: Trib. to Pipestone Ck. trib. to Galum Ck.

STREAM 7-DAY, 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Settling pond

PRESENT EFFLUENT QUALITY (MG/L):

TSS	TDS	IRON	ALKALI	ACID	pH
32	2040	.6	200	0	8.0

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

AVERAGE FLOW (MGD): .05 pit pumpage

MINING INFORMATION

TYPE OF MINE: Coal

METHOD OF MINING: Strip

METHOD OF REFUSE DISPOSAL:

RECLAMATION PRACTICES:

ANNUAL PRODUCTION (TONS): 4.5

YEAR OPERATION STARTED: 1971

PUBLIC WATER SUPPLIES WITHIN 10 MILES:

PLANNING AREAS

PLANNING AREA
201:
208: GERP&DC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Perry A

PERMIT INFORMATION

NPDES #IL 0034649
EFFECTIVE DATE: 7/9/75
INTERIM LIMIT. DATE: 1/31/76,
EXPIRATION DATE: 4/30/80 6/30/77

EFFLUENT LIMITATIONS:

	I INTERIM	II INTERIM	FINAL
TSS (MG/L)		30	30
IRON TOTAL (MG/L)	4	4	4
TDS (MG/L)		*	Rule 203
ALKALINITY	Greater than acidity		
pH	6-9		6-9

* Will not cause TDS to exceed 200 mg/l in the receiving stream

COMPLIANCE SCHEDULE

To achieve Interim limitations

Final Plans	8/1/75
Begin Const.	10/1/75
Comp. Const.	1/1/76
Op. Level	2/1/76

To achieve Final limitations

Final Plans	8/1/75
Begin Const.	10/1/75
Comp. Const.	6/1/77
Op. Level	7/1/77

COMMENTS

Il. Operating Permit #
1975-NP-1425-OP

3/31/76

MINE RELATED INFORMATION

NAME Amax Coal Co.
Leahy Mine
Discharge 004

MAP REFERENCE NO: 48
CONTROL NO: 9504
REGISTRATION NO: NCDA 145 --
COUNTY: Perry

BASIN: Big Muddy
SEGMENT: A-04

RECEIVING STREAM: Pipestone Ck. trib. to Calum Ck. STREAM 7-DAY, 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Settling basin

PRESENT EFFLUENT QUALITY (MG/L):
TSS TDS IRON ALKALI ACID pH

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

AVERAGE FLOW (MGD): 0 - 2.3 pit pumpage

PERMIT INFORMATION

NPDES #IL 0034398
EFFECTIVE DATE: 3/12/75
INTERIM LIMIT. DATE:
EXPIRATION DATE: 12/31/78

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
TSS (MG/L)		30
IRON TOTAL (MG/L)		4
TDS (MG/L)		
ALKALINITY	Greater than acidity	
pH		6-9

COMPLIANCE SCHEDULE

MINING INFORMATION

TYPE OF MINE: Coal

METHOD OF MINING: Strip

METHOD OF REFUSE DISPOSAL:

RECLAMATION PRACTICES:

ANNUAL PRODUCTION (TONS): 4.5

YEAR OPERATION STARTED: 1971

PUBLIC WATER SUPPLIES WITHIN 10 MILES:

PLANNING AREAS

PLANNING AREA
201:
208: GERP&DC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Perry A

COMMENTS

MINE RELATED INFORMATION

NAME Amax Coal Co.
Leahy Mine
Discharge 005

MAP REFERENCE NO: 49
CONTROL NO: 9504
REGISTRATION NO: NCDA 145 --
COUNTY: Perry

BASIN: Big Muddy
SEGMENT: A-04

RECEIVING STREAM: Trib. to Pipestone Ck. trib. to Galum Ck. to Beaucoup Ck.

STREAM 7-DAY, 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Settling ponds

PRESENT EFFLUENT QUALITY (MG/L):
TSS TDS IRON ALKALI ACID pH

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

AVERAGE FLOW (MGD): .05 Pit pumpage

MINING INFORMATION

TYPE OF MINE: Coal

METHOD OF MINING: Strip

METHOD OF REFUSE DISPOSAL:

RECLAMATION PRACTICES:

ANNUAL PRODUCTION (TONS): 4.5

YEAR OPERATION STARTED: 1971

PUBLIC WATER SUPPLIES WITHIN 10 MILES:

PLANNING AREAS

PLANNING AREA
201:
208: GERP&DC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Perry A

PERMIT INFORMATION

NPDES #IL 0042323
EFFECTIVE DATE: 7/30/75
INTERIM LIMIT. DATE: 7/31/76
EXPIRATION DATE: 5/31/80

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
TSS (MG/L)		30
IRON TOTAL (MG/L)		4
TDS (MG/L)		Rule 203
ALKALINITY	Greater than acidity	
pH	6-9	6-9

COMPLIANCE SCHEDULE

Final Plans	10/31/75
Begin Const.	12/31/75
Comp. Const.	6/30/76
Op. Level	8/1/76

COMMENTS

IL. Operating Permit #
1975-NP-1426-OP

3/31/76

SOLID WASTE INFORMATION

FACILITY NAME AND LOCATION:

Barr Landfill at Nashville

MAP REFERENCE NO: 61 BASIN: Big Muddy
SITE CODE NO: 18903002
REGISTRATION NO:
COUNTY: Washington SEGMENT: A-04

ADJACENT STREAM(S): Back Creek

STREAM(S) 7 DAY, 10 YEAR LOW FLOW (CFS): 0

LANDFILL INFORMATION

TYPE OF REFUSE: Garbage

ANNUAL QUANTITY (CU. YDS.): 8,300

SITE AREA (ACRES): 62

LEACHATE QUALITY (MG/L):

FLOW (CFS):

GENERAL INFORMATION

SITE TOPOGRAPHY: Level rolling
SURROUNDING LAND USE:

GROUND WATER INFORMATION

MONITOR WELLS-WATER QUALITY (MG/L):

NO.	DATE	WL	CL	FE	TDS

NEARBY WATER SUPPLIES
LOCATION:
DEPTH:

PLANNING AREAS

PLANNING AREA
201:
208:

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Washington B

PERMIT INFORMATION

IEPA# 72-76

GEOLOGIC INFORMATION

UNDERLYING MATERIALS: Clayey silt

COEFFICIENT OF PERMEABILITY: 10^{-4} to 10^{-6}

DEPTH OF AQUIFER:

GROUND WATER MOVEMENT:
DIRECTION:
RATE:

COMMENTS

Natural attenuation

SOLID WASTE INFORMATION

FACILITY NAME AND LOCATION:

Byrant & Graff Landfill at Desoto

MAP REFERENCE NO: 53
SITE CODE NO: 07702001
REGISTRATION NO:
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: A-04

ADJACENT STREAM(S): Beaucoup Ck.

STREAM(S) 7 DAY, 10 YEAR LOW FLOW (CFS): .02

LANDFILL INFORMATION

TYPE OF REFUSE: Garbage

ANNUAL QUANTITY (CU. YDS.): 83,200

SITE AREA (ACRES): 90

LEACHATE QUALITY (MG/L):

FLOW (CFS):

PERMIT INFORMATION

IEPA# 71-15

GEOLOGIC INFORMATION

UNDERLYING MATERIALS: Shale & clay

COEFFICIENT OF PERMEABILITY: 10^{-7}

DEPTH OF AQUIFER: 22' to W.T.

GROUND WATER MOVEMENT:
DIRECTION:
RATE:

GENERAL INFORMATION

SITE TOPOGRAPHY: Strip Mine
SURROUNDING LAND USE: Industrial

GROUND WATER INFORMATION

MONITOR WELLS-WATER QUALITY (MG/L):

NO.	DATE	WL	CL	FE	TDS

NEARBY WATER SUPPLIES
LOCATION:
DEPTH:

COMMENTS

Natural attenuation

PLANNING AREAS

PLANNING AREA
201:
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson B

3/30/76

SOLID WASTE INFORMATION

FACILITY NAME AND LOCATION:

Co. Bd. Com. Landfill at DuQuoin TWP

MAP REFERENCE NO: 45
SITE CODE NO: 14583301
REGISTRATION NO:
COUNTY: Perry

BASIN: Big Muddy

SEGMENT: A-04

ADJACENT STREAM(S): William Creek

STREAM(S) 7 DAY, 10 YEAR LOW FLOW (CFS): 0

LANDFILL INFORMATION

TYPE OF REFUSE: Garbage

ANNUAL QUANTITY (CU. YDS.): 31,200

SITE AREA (ACRES): 6

LEACHATE QUALITY (MG/L):

FLOW (CFS):

GENERAL INFORMATION

SITE TOPOGRAPHY: Strip Mine
SURROUNDING LAND USE: Industrial

GROUND WATER INFORMATION

MONITOR WELLS-WATER QUALITY (MG/L):

NO.	DATE	WL	CL	FE	TDS

NEARBY WATER SUPPLIES
LOCATION:
DEPTH:

PLANNING AREAS

PLANNING AREA
201:
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Perry A

PERMIT INFORMATION

IEPA# 75-14

GEOLOGIC INFORMATION

UNDERLYING MATERIALS: Clay overlying shale

COEFFICIENT OF PERMEABILITY: 10^{-7}

DEPTH OF AQUIFER:

GROUND WATER MOVEMENT:
DIRECTION:
RATE:

COMMENTS

Natural attenuation

3/31/76

MINE RELATED INFORMATION

NAME Consolidation Coal Co.
Burning Star #2
Discharge BS 2-1 (001)

MAP REFERENCE NO: 43
CONTROL NO:
REGISTRATION NO: NCI 145 --
COUNTY: Perry

BASIN: Big Muddy
SEGMENT: A-04

RECEIVING STREAM: Little Beaucoup Ck.

STREAM 7-DAY, 10-YEAR LOW FLOW (CFS):

FACILITY INFORMATION

TREATMENT TYPE:

PRESENT EFFLUENT QUALITY (MG/L):
TSS TDS IRON ALKALI ACID pH

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

AVERAGE FLOW (MGD):

MINING INFORMATION

TYPE OF MINE: Coal

METHOD OF MINING: Surface

METHOD OF REFUSE DISPOSAL:

RECLAMATION PRACTICES:

ANNUAL PRODUCTION (TONS):

YEAR OPERATION STARTED:

PUBLIC WATER SUPPLIES WITHIN 10 MILES:

PLANNING AREAS

PLANNING AREA
201:
208:

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE:

PERMIT INFORMATION

NPDES #IL 0000507
EFFECTIVE DATE: 11/10/74
INTERIM LIMIT. DATE: 6/30/77
EXPIRATION DATE: 10/1/79

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
TSS (MG/L)	30	
IRON TOTAL (MG/L)	4	
TDS (MG/L)		
ALKALINITY	Greater acid	
pH	6-9	

COMPLIANCE SCHEDULE

Report 2nd set interim req.	8/31/75
Comp. 2nd set interim req.	9/1/75
Report of prog. 1st set	7/1/76
Work completed	6/30/77
Comp. final report	7/1/77

COMMENTS

Additional interim requirements end on 8/31/75

3/31/76

MINE RELATED INFORMATION

NAME Consolidation Coal Co.
Burning Star Mine #2
(Discharge BS 2-2)

MAP REFERENCE NO: 41
CONTROL NO: 9903
REGISTRATION NO: NC 145 --
COUNTY: Perry

BASIN: Big Muddy
SEGMENT: A-04

RECEIVING STREAM: Williams Ck. to Beaucoup Ck.

STREAM 7-DAY, 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE:

PRESENT EFFLUENT QUALITY (MG/L):

Mn	TSS	TDS	IRON	ALKALI	ACID	pH
2.5	12	2709	.5			8

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

AVERAGE FLOW (MGD): .576

PERMIT INFORMATION

NPDES #IL 0000493
EFFECTIVE DATE: 11/10/74
INTERIM LIMIT. DATE: 8/31/75,
EXPIRATION DATE: 10/1/79 6/30/77

EFFLUENT LIMITATIONS:

	I INTERIM	II FINAL
TSS (MG/L)	30	30
IRON TOTAL (MG/L)	4	4
TDS (MG/L)	3500 (max)	2000 (max) Rule 203
ALKALINITY	Greater than acidity	
pH	6-9	6-9 6-9

COMPLIANCE SCHEDULE

MINING INFORMATION

TYPE OF MINE: Coal

METHOD OF MINING:

METHOD OF REFUSE DISPOSAL:

RECLAMATION PRACTICES:

ANNUAL PRODUCTION (TONS):

YEAR OPERATION STARTED:

PUBLIC WATER SUPPLIES WITHIN 10 MILES:

PLANNING AREAS

PLANNING AREA
201: Duquoin FPA
208: GERP&DC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Perry B

COMMENTS

Pit pumpage and mine drainage

Mining to be finished in this field and discharge discontinued by 12/31/75

3/31/76

MINE RELATED INFORMATION

NAME Consolidation Coal Co.
Burning Star Mine #4
Discharge BS 4-1

MAP REFERENCE NO: 39
CONTROL NO:
REGISTRATION NO: NCD 145 --
COUNTY: Perry

BASIN: Big Muddy
SEGMENT: A-04

RECEIVING STREAM: Galum Ck.

STREAM 7-DAY, 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE:

PRESENT EFFLUENT QUALITY (MG/L):
TSS TDS IRON ALKALI ACID pH

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

AVERAGE FLOW (MGD):

MINING INFORMATION

TYPE OF MINE: Coal

METHOD OF MINING: Strip

METHOD OF REFUSE DISPOSAL:

RECLAMATION PRACTICES:

ANNUAL PRODUCTION (TONS):

YEAR OPERATION STARTED:

PUBLIC WATER SUPPLIES WITHIN 10 MILES:

PLANNING AREAS

PLANNING AREA
201:
208:

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE:

PERMIT INFORMATION

NPDES #IL 0026492
EFFECTIVE DATE: 5/17/75
INTERIM LIMIT. DATE: 3/1/76, 7/1/77
EXPIRATION DATE: 2/1/80

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
TSS (MG/L)		30
IRON TOTAL (MG/L)		4
TDS (MG/L)		1000
ALKALINITY	Greater than acidity	
pH	6-9	6-9

COMPLIANCE SCHEDULE

Final Plans	7/1/75
Begin Const.	9/1/75
Comp. Const.	2/1/76
Interim Op. Level	3/1/76
Final Op. Level	7/1/77

COMMENTS

3/31/76

MINE RELATED INFORMATION

NAME Consolidation Coal Co.
Burning Star Mine #4
(BS 4-8)

MAP REFERENCE NO: 36
CONTROL NO: 9190
REGISTRATION NO: NCD 145 02
COUNTY: Perry

BASIN: Big Muddy
SEGMENT: A-04

RECEIVING STREAM: Trib. to Galum Ck.

STREAM 7-DAY, 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE:

PRESENT EFFLUENT QUALITY (MG/L):
TSS TDS IRON ALKALI ACID pH

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

AVERAGE FLOW (MGD): Sanitary - .005
Process - .010

PERMIT INFORMATION

NPDES #IL 0047716 Draft
EFFECTIVE DATE:
INTERIM LIMIT. DATE:
EXPIRATION DATE:

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
TSS (MG/L)		30
IRON TOTAL (MG/L)		4
TDS (MG/L)		Rule 203
ALKALINITY	Greater than acidity	
pH		6-9

COMPLIANCE SCHEDULE

MINING INFORMATION

TYPE OF MINE: Coal

METHOD OF MINING:

METHOD OF REFUSE DISPOSAL:

RECLAMATION PRACTICES:

ANNUAL PRODUCTION (TONS): 50,000

YEAR OPERATION STARTED:

PUBLIC WATER SUPPLIES WITHIN 10 MILES:

COMMENTS

PLANNING AREAS

PLANNING AREA
201:
208:

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE:

MINE RELATED INFORMATION

NAME Consolidation Coal Co.
Burning Star Mine #2
(Discharge BS 2P-13)

MAP REFERENCE NO: 42
CONTROL NO:
REGISTRATION NO: NCH 145 --
COUNTY: Perry

BASIN: Big Muddy

SEGMENT: A-04

RECEIVING STREAM: White Walnut Ck. to Beaucoup Ck.

STREAM 7-DAY, 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE:

PRESENT EFFLUENT QUALITY (MG/L): 1/14/74

Mn	TSS	TDS	IRON	ALKALI	ACID	pH	SO_4
1.1	12		.5			7.3	220

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

AVERAGE FLOW (MGD): .05

PERMIT INFORMATION

NPDES #IL 0033201
EFFECTIVE DATE: 7/30/75
INTERIM LIMIT. DATE: 4/30/76, 6/30/77
EXPIRATION DATE: 6/1/80

EFFLUENT LIMITATIONS:

	I INTERIM	II INTERIM	FINAL
TSS (MG/L)		30	30
IRON TOTAL (MG/L)	7 (max)	4	4
TDS (MG/L)			Rule 203
ALKALINITY	Greater than acidity		
pH	6-9	6-9	6-9

COMPLIANCE SCHEDULE

	Interim II	Final
Final Plans	10/31/75	6/30/76
Begin Const.	4/30/76	9/30/76
Comp. Const.		5/31/77
Op. Level	5/1/76	7/1/77

MINING INFORMATION

TYPE OF MINE: Coal

METHOD OF MINING:

METHOD OF REFUSE DISPOSAL:

RECLAMATION PRACTICES:

ANNUAL PRODUCTION (TONS):

YEAR OPERATION STARTED:

PUBLIC WATER SUPPLIES WITHIN 10 MILES:

COMMENTS

Pit pumpage and land runoff

PLANNING AREAS

PLANNING AREA
201:
208: GERP&DC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Perry B

3/31/76

MINE RELATED INFORMATION

NAME Consolidation Coal Co.
Burning Star Mine #2
Discharge (BS 2-49)

MAP REFERENCE NO: 62
CONTROL NO: 9903
REGISTRATION NO: NCD 145 --
COUNTY: Perry

BASIN: Big Muddy
SEGMENT: A-04

RECEIVING STREAM: Panther Ck. trib. to Little Beaucoup Ck.

STREAM 7-DAY, 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE:

PRESENT EFFLUENT QUALITY (MG/L):
TSS TDS IRON ALKALI ACID pH

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

AVERAGE FLOW (MGD): Proposed discharge pit pumpage & mine drainage

MINING INFORMATION

TYPE OF MINE: Coal

METHOD OF MINING: Strip

METHOD OF REFUSE DISPOSAL:

RECLAMATION PRACTICES:

ANNUAL PRODUCTION (TONS):

YEAR OPERATION STARTED:

PUBLIC WATER SUPPLIES WITHIN 10 MILES:

PLANNING AREAS

PLANNING AREA
201:
208: GERP&DC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Perry B

PERMIT INFORMATION

NPDES #IL 0048160 Draft
EFFECTIVE DATE:
INTERIM LIMIT. DATE:
EXPIRATION DATE:

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
TSS (MG/L)		
IRON TOTAL (MG/L)		
TDS (MG/L)		
ALKALINITY		
pH		

COMPLIANCE SCHEDULE

COMMENTS

Proposed discharge

3/31/76

MINE RELATED INFORMATION

NAME Freeman United Coal Mining Corp. - Fidelity #11 Discharge 003

MAP REFERENCE NO: 47
CONTROL NO:
REGISTRATION NO: NCCA 145 --
COUNTY: Perry

BASIN: Big Muddy
SEGMENT: A-04

RECEIVING STREAM: Youngs Creek

STREAM 7-DAY, 10-YEAR LOW FLOW (CFS):

FACILITY INFORMATION

TREATMENT TYPE: Settling ponds

PRESENT EFFLUENT QUALITY (MG/L):
TSS TDS IRON ALKALI ACID pH

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

AVERAGE FLOW (MGD):

MINING INFORMATION

TYPE OF MINE: Coal

METHOD OF MINING: Surface

METHOD OF REFUSE DISPOSAL: Buried

RECLAMATION PRACTICES:

ANNUAL PRODUCTION (TONS):

YEAR OPERATION STARTED:

PUBLIC WATER SUPPLIES WITHIN 10 MILES:

PLANNING AREAS

PLANNING AREA
201:
208: GERP & DC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE:

PERMIT INFORMATION

NPDES #IL 0000302
EFFECTIVE DATE: 2/30/75
INTERIM LIMIT. DATE: 6/30/75
EXPIRATION DATE: 9/30/75

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
TSS (MG/L)		7
IRON TOTAL (MG/L)		W. Quality
TDS (MG/L)		
ALKALINITY	greater than acidity	
pH		6-9

COMPLIANCE SCHEDULE

Final Plans	1/31/75
Commence Const.	3/31/75
Complete Const.	6/1/75
Op. Level	7/1/75

COMMENTS

MINE RELATED INFORMATION

NAME Freeman United Coal Mining Corp. Fidelity Mine #11 Discharge 004

MAP REFERENCE NO: 44
CONTROL NO:
REGISTRATION NO: NCE 145 --
COUNTY: Perry

BASIN: Big Muddy
SEGMENT: A-04

RECEIVING STREAM: Panther Ck.

STREAM 7-DAY, 10-YEAR LOW FLOW (CFS):

FACILITY INFORMATION

TREATMENT TYPE: Settling ponds

PRESENT EFFLUENT QUALITY (MG/L):
TSS TDS IRON ALKALI ACID pH

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

AVERAGE FLOW (MGD):

PERMIT INFORMATION

NPDES #IL 0035840
EFFECTIVE DATE: 3/6/75
INTERIM LIMIT. DATE: 8/31/75
EXPIRATION DATE: 9/30/79

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
TSS (MG/L)		30
IRON TOTAL (MG/L)		4
TDS (MG/L)		
ALKALINITY	greater than acidity	
pH		6-9

MINING INFORMATION

TYPE OF MINE: Coal

METHOD OF MINING: Surface

METHOD OF REFUSE DISPOSAL: Burned

RECLAMATION PRACTICES:

ANNUAL PRODUCTION (TONS):

YEAR OPERATION STARTED:

PUBLIC WATER SUPPLIES WITHIN 10 MILES:

COMPLIANCE SCHEDULE

Final Plans	3/31/75
Begin Const.	5/31/75
Comp. Const.	8/1/75
Op. Level	9/1/75

PLANNING AREAS

PLANNING AREA
201:
208: GERP&DC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE:

COMMENTS

3/31/76

PUBLIC WATER SUPPLY INFORMATION

NAME Pinckneyville

MAP REFERENCE NO: 40
CONTROL NO: 0730150
REGISTRATION NO: NC 145 --
COUNTY: Perry

BASIN: Big Muddy

SEGMENT: A-04

RECEIVING STREAM: Beaucoup Ck. to Big Muddy R.

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

FLOW (AV.,MGD): .3

SOURCE: CI Beaucoup Creek

PRESENT WATER QUALITY (MG/L):

	TDS	TDS HARD	NON-CARB HARD	IRON
RAW:	342	216	120	.05
FINISHED:	338	228	181	.00

TREATMENT TYPE: Purification

WASTES: TDS, Lime, Alum, Carbon
DISPOSAL: To creek

QUANTITIES: Clarifier: 702 lbs/day solids @ 15,000 gal/day Filters: 38.3 lbs/day solids @ 25,000 gal/day

COMMENTS

PLANNING AREAS

PLANNING AREA
201: Pickneyville FPA
208: GERP&DC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Perry A

PERMIT INFORMATION

NPDES #IL 0050822 (Appl. only)
EFFECTIVE DATE:
INTERIM LIMIT, DATE:
EXPIRATION DATE:

EFFLUENT LIMITATIONS:

INTERIM

1. $4 \leq pH \leq 10$
2. NO OTHER NUMBERICAL LIMITS. MONITORING REQUIRED FOR PARAMETERS BELOW.

FINAL

BOD
TSS
FE(TOT)
FE(DIS)
TDS

COMPLIANCE SCHEDULE

3/10/76

MINE RELATED INFORMATION

NAME SW Ill Coal Co.
Streamline #001

MAP REFERENCE NO: 35
CONTROL NO: 9879
REGISTRATION NO: NCDD 145 --
COUNTY: Perry

BASIN: Big Muddy
SEGMENT: A-04

RECEIVING STREAM: Rock Fork Ck. to Galum Ck. to Beaucoup Ck. to Big Muddy R.

STREAM 7-DAY, 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE:

PRESENT EFFLUENT QUALITY (MG/L):
TSS TDS IRON ALKALI ACID pH

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

AVERAGE FLOW (MGD):

MINING INFORMATION

TYPE OF MINE: Coal

METHOD OF MINING:

METHOD OF REFUSE DISPOSAL:

RECLAMATION PRACTICES:

ANNUAL PRODUCTION (TONS):

YEAR OPERATION STARTED:

PUBLIC WATER SUPPLIES WITHIN 10 MILES:

PLANNING AREAS

PLANNING AREA
201:
208:

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE:

PERMIT INFORMATION

NPDES #IL 0000353
EFFECTIVE DATE: 7/27/75
INTERIM LIMIT. DATE: 2/1/76
EXPIRATION DATE: 7/31/78

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
TSS (MG/L)		30
IRON TOTAL (MG/L)		4
TDS (MG/L)		
ALKALINITY	Greater than acidity	
pH	6-9	6-9

COMPLIANCE SCHEDULE

Op. Level 2/1/76

COMMENTS

3/31/76

MINE RELATED INFORMATION

NAME Southwestern IL. Coal Corp. Captain Mine (Discharge 002)

MAP REFERENCE NO: 38
CONTROL NO:
REGISTRATION NO: NCDA 145 --
COUNTY: Perry

BASIN: Big Muddy
SEGMENT: A-04

RECEIVING STREAM: Pipestone Ck. to Galum Ck.

STREAM 7-DAY, 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Settling ponds

PRESENT EFFLUENT QUALITY (MG/L):

TSS	TDS	IRON	ALKALI	ACID	pH	SO_4
	6470	1.9	440	0		3700

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

AVERAGE FLOW (MGD): 0-2

MINING INFORMATION

TYPE OF MINE: Coal

METHOD OF MINING:

METHOD OF REFUSE DISPOSAL:

RECLAMATION PRACTICES:

ANNUAL PRODUCTION (TONS):

YEAR OPERATION STARTED:

PUBLIC WATER SUPPLIES WITHIN 10 MILES:

PLANNING AREAS

PLANNING AREA
201:
208: GERP&DC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Perry A

PERMIT INFORMATION

NPDES #IL 0033723
EFFECTIVE DATE: 7/16/75
INTERIM LIMIT. DATE: 1/31/76, 6/30/77
EXPIRATION DATE: 4/30/80

EFFLUENT LIMITATIONS:

	I INTERIM	II INTERIM	FINAL
TSS (MG/L)	30		30
IRON TOTAL (MG/L)	4		4
TDS (MG/L)	*		Rule 203
ALKALINITY	Greater than acidity		
pH	6-9	6-9	6-9
SO_4	*		Rule 203

* Shall not cause TDS conc. in receiving stream to exceed 2000 mg/l or SO_4 conc. to exceed 1000 mg/l

COMPLIANCE SCHEDULE

	Interim II	Final
Final Plans	8/1/75	8/1/75
Begin Const.	10/1/75	10/1/75
Comp. Const.	11/1/76	6/1/77
Op. Level	2/1/76	7/1/77

COMMENTS

3/31/76

MINE RELATED INFORMATION

NAME Southwestern Ill. Coal Corp. Captain Mine Discharge 003

MAP REFERENCE NO: 37

CONTROL NO:

REGISTRATION NO: NCD 145 --

COUNTY: Perry

BASIN: Big Muddy

SEGMENT: A-04

RECEIVING STREAM: Unnamed ditch to Galum Ck.

STREAM 7-DAY, 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Settling ponds

PRESENT EFFLUENT QUALITY (MG/L):

TSS	TDS	IRON	ALKALI	ACID	pH
80	510	4.4	68	0	7.6

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

AVERAGE FLOW (MGD): 1.0

PERMIT INFORMATION

NPDES #IL 0034941

EFFECTIVE DATE: 7/11/75

INTERIM LIMIT. DATE: 1/1/76

EXPIRATION DATE: 4/30/80

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
TSS (MG/L)		30
IRON TOTAL (MG/L)		4
TDS (MG/L)		Rule 203
ALKALINITY	Greater than acidity	
pH		6-9

MINING INFORMATION

TYPE OF MINE:

METHOD OF MINING:

METHOD OF REFUSE DISPOSAL:

RECLAMATION PRACTICES:

ANNUAL PRODUCTION (TONS):

YEAR OPERATION STARTED:

PUBLIC WATER SUPPLIES WITHIN 10 MILES:

COMPLIANCE SCHEDULE

Final Plans	8/1/75
Begin Const.	10/1/75
Comp. Const.	1/1/76
Op. Level	2/1/76

PLANNING AREAS

PLANNING AREA

201:

208: GERP&DC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Perry A

COMMENTS

Pit pumpage and mine drainage

SOLID WASTE INFORMATION

FACILITY NAME AND LOCATION:

Cannon Landfill at Marion

MAP REFERENCE NO: 57 BASIN: Big Muddy
SITE CODE NO: 19986203
REGISTRATION NO:
COUNTY: Williamson SEGMENT: A-05

ADJACENT STREAM(S): Unnamed trib. to Crab Orchard

STREAM(S) 7 DAY, 10 YEAR LOW FLOW (CFS): 0

LANDFILL INFORMATION

TYPE OF REFUSE: Construction Demo

ANNUAL QUANTITY (CU. YDS.): 4,000

SITE AREA (ACRES): 1

LEACHATE QUALITY (MG/L):

FLOW (CFS):

PERMIT INFORMATION

IEPA# 74-14

GEOLOGIC INFORMATION

UNDERLYING MATERIALS:

COEFFICIENT OF PERMEABILITY:

DEPTH OF AQUIFER:

GROUND WATER MOVEMENT:
DIRECTION:
RATE:

GENERAL INFORMATION

SITE TOPOGRAPHY: Level
SURROUNDING LAND USE: Commercial

GROUND WATER INFORMATION

MONITOR WELLS-WATER QUALITY (MG/L):

NO.	DATE	WL	CL	FE	TDS

NEARBY WATER SUPPLIES
LOCATION:
DEPTH:

COMMENTS

PLANNING AREAS

PLANNING AREA
201: Marion FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Williamson A

PUBLIC WATER SUPPLY INFORMATION

NAME Marion

MAP REFERENCE NO: 55
CONTROL NO: 1000550
REGISTRATION NO: ND 199 --
COUNTY: Williamson

BASIN: Big Muddy
SEGMENT: A-05

RECEIVING STREAM: Unnamed trib. to Crab Orchard Ck. to Big Muddy R.

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

FLOW (AV.,MGD): 1.0

SOURCE: I Br. Crab Orchard

PRESENT WATER QUALITY (MG/L):

	TDS	TDS HARD	NON-CARB HARD	IRON
RAW:	264	160	42	.00
FINISHED:	305	188	72	.00

TREATMENT TYPE: Purification

WASTES: TDS, Alum, Lime
DISPOSAL: Mule Creek

QUANTITIES: Clarifier: 1404 lbs/day solids @ 30,000 gal/day Filters: 76.6 lbs/day solids @ 50,000 gal/day

COMMENTS

PLANNING AREAS

PLANNING AREA
201: Marion FPA
208: GERP&DC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Williamson A

PERMIT INFORMATION

NPDES #IL 0001091
EFFECTIVE DATE: 7/17/75
INTERIM LIMIT, DATE: 7/1/77
EXPIRATION DATE: 12/31/78

EFFLUENT LIMITATIONS:

INTERIM

1. $4 \leq pH \leq 10$
2. NO OTHER NUMBERICAL LIMITS. MONITORING REQUIRED FOR PARAMETERS BELOW.

FINAL - 001

BOD_5	(mg/l)	4
TSS	(mg/l)	5
FE (TOT)		
FE (DIS)		
TDS		

COMPLIANCE SCHEDULE

Final Plans	12/31/75
Begin Const.	3/31/76
Comp. Const.	3/31/77
Op. Level	7/1/77

3/10/76

SOLID WASTE INFORMATION

FACILITY NAME AND LOCATION:

Municipal #2 Landfill at Marion

MAP REFERENCE NO: 56 BASIN: Big Muddy
SITE CODE NO: 19986210
REGISTRATION NO:
COUNTY: Williamson SEGMENT: A-05

ADJACENT STREAM(S): Unnamed Ck. to Crab Orchard

STREAM(S) 7 DAY, 10 YEAR LOW FLOW (CFS): 0

LANDFILL INFORMATION

TYPE OF REFUSE: Garbage

ANNUAL QUANTITY (CU. YDS.): 78,000

SITE AREA (ACRES): 40

LEACHATE QUALITY (MG/L):

FLOW (CFS):

PERMIT INFORMATION

IEPA# 74-23

GEOLOGIC INFORMATION

UNDERLYING MATERIALS: Silty clay, shale

COEFFICIENT OF PERMEABILITY: 10^{-6} to 10^{-8}

DEPTH OF AQUIFER: 4' - 14' to W.T.

GROUND WATER MOVEMENT:
DIRECTION:
RATE:

GENERAL INFORMATION

SITE TOPOGRAPHY: Strip Mine
SURROUNDING LAND USE: Strip Mine

GROUND WATER INFORMATION

MONITOR WELLS-WATER QUALITY (MG/L):

NO.	DATE	WL	CL	FE	TDS
1	10/10		12.	.06	2277
2	10/10		11.	.09	444

NEARBY WATER SUPPLIES
LOCATION:
DEPTH:

COMMENTS

Natural attenuation

PLANNING AREAS

PLANNING AREA
201: Marion FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Williamson A

 3/10/76

PUBLIC WATER SUPPLY INFORMATION

NAME Carbondale

MAP REFERENCE NO: 58 BASIN: Big Muddy
CONTROL NO: 0390150
REGISTRATION NO: NDB 077 --
COUNTY: Jackson SEGMENT: A-07

RECEIVING STREAM: Piles Fk. to Crab Orchard Ck. to Big Muddy R.

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

FLOW (AV.,MGD): 3.4

SOURCE: 1 Pyles Fork

PRESENT WATER QUALITY (MG/L):

	TDS	TDS HARD	NON-CARB HARD	IRON
RAW:	216	42	8	.20
FINISHED:	243	112	58	0

TREATMENT TYPE: Purification

WASTES:
DISPOSAL: To creek

QUANTITIES: Clarifier: 4272 lbs/day solids @ 102,000 gal/day Filters: 260.3 lbs/day solids @ 170,000 gal/day

COMMENTS

PLANNING AREAS

PLANNING AREA
201: Carbondale FPA
208: GERP&DC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson C

PERMIT INFORMATION

NPDES #IL 0001074
EFFECTIVE DATE: 7/20/75
INTERIM LIMIT. DATE: 7/1/77
EXPIRATION DATE: 12/31/78

EFFLUENT LIMITATIONS:

INTERIM

1. $4 \leq pH \leq 10$
2. NO OTHER NUMBERICAL LIMITS. MONITORING REQUIRED FOR PARAMETERS BELOW.

FINAL - 001, 002, 003

BOD_5 (mg/l)	4
TSS (mg/l)	5
FE(TOT)	
FE(DIS)	
TDS	

COMPLIANCE SCHEDULE

Final Plans	12/31/75
Begin Const.	3/31/76
Comp. Const.	5/31/77
Op. Level	7/31/77

3/10/76

SOLID WASTE INFORMATION

FACILITY NAME AND LOCATION:

Kopper's Landfill at Carbondale

MAP REFERENCE NO: 59 BASIN: Big Muddy
SITE CODE NO: 07780102
REGISTRATION NO:
COUNTY: Jackson SEGMENT: A-07

ADJACENT STREAM(S): Crab Orchard Ck.

STREAM(S) 7 DAY, 10 YEAR LOW FLOW (CFS): 1.4

LANDFILL INFORMATION

TYPE OF REFUSE: Wood Demo

ANNUAL QUANTITY (CU. YDS.): 4,333

SITE AREA (ACRES): 6

LEACHATE QUALITY (MG/L):

FLOW (CFS):

GENERAL INFORMATION

SITE TOPOGRAPHY: Hillside
SURROUNDING LAND USE: Industrial

GROUND WATER INFORMATION

MONITOR WELLS-WATER QUALITY (MG/L):

NO.	DATE	WL	CL	FE	TDS

NEARBY WATER SUPPLIES
LOCATION:
DEPTH:

PLANNING AREAS

PLANNING AREA
201: Carbondale FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson B

PERMIT INFORMATION

IEPA# 73-23

GEOLOGIC INFORMATION

UNDERLYING MATERIALS:

COEFFICIENT OF PERMEABILITY:

DEPTH OF AQUIFER:

GROUND WATER MOVEMENT:
DIRECTION:
RATE:

COMMENTS

3/10/76

PUBLIC WATER SUPPLY INFORMATION

NAME (Jackson County)
Kincaid Reeds Crk
Int-City Wtr System

MAP REFERENCE NO: 54
CONTROL NO: 0395100
REGISTRATION NO: NB 077 --
COUNTY: Jackson

BASIN: Big Muddy

SEGMENT: A-08

RECEIVING STREAM: Kincaid Lake to Kincaid Ck. to Big Muddy R.

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

FLOW (AV.,MGD):

SOURCE: 1 Lake Kincaid

PRESENT WATER QUALITY (MG/L):

	TDS	TDS HARD	NON-CARB HARD	IRON
RAW:	0	0	0	0
FINISHED:	0	0	0	0

TREATMENT TYPE: Purification

WASTES:
DISPOSAL:

QUANTITIES:

COMMENTS

PLANNING AREAS

PLANNING AREA
201:
208: GERP&DC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson B

PERMIT INFORMATION

NPDES #IL Application not filed
EFFECTIVE DATE:
INTERIM LIMIT, DATE:
EXPIRATION DATE:

EFFLUENT LIMITATIONS:

INTERIM

1. $4 \leq pH \leq 10$
2. NO OTHER NUMBERICAL LIMITS. MONITORING REQUIRED FOR PARAMETERS BELOW.

FINAL

BOD
TSS
FE(TOT)
FE(DIS)
TDS

COMPLIANCE SCHEDULE

3/10/76

PUBLIC WATER SUPPLY INFORMATION

NAME Alto Pass

MAP REFERENCE NO: 60
CONTROL NO: 0910100
REGISTRATION NO: NA 181 --
COUNTY: Union

BASIN: Big Muddy

SEGMENT: A-09

RECEIVING STREAM: Cedar Ck. to Big Muddy

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

FLOW (AV.,MGD): .06

SOURCE: 1 trib. to Cedar Creek

PRESENT WATER QUALITY (MG/L):

	TDS	TDS HARD	NON-CARB HARD	IRON
RAW:				
FINISHED:				

TREATMENT TYPE: Purification

WASTES: TDS, Alum, Lime, Carbon
DISPOSAL: To creek

QUANTITIES: Clarifier: 134.2 lbs/day solids @ 1,800 gal/day Filters: 4.6 lbs/day solids @ 3,000 gal/day

COMMENTS

PLANNING AREAS

PLANNING AREA
201: Alto Pass FPA
208:

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Union A

PERMIT INFORMATION

NPDES #IL 0000914
EFFECTIVE DATE: 6/20/75
INTERIM LIMIT. DATE: 7/1/77
EXPIRATION DATE: 12/31/78

EFFLUENT LIMITATIONS:

INTERIM

1. $4 \leq pH \leq 10$
2. NO OTHER NUMBERICAL LIMITS. MONITORING REQUIRED FOR PARAMETERS BELOW.

FINAL - 001

BOD_5 (mg/1)	4
TSS (mg/1)	5
FE(TOT)	
FE(DIS)	
TDS	

COMPLIANCE SCHEDULE

Final Plans	12/31/75
Begin Const.	3/31/76
Comp. Const.	3/31/77
Op. Level	7/1/77

3/10/76

PUBLIC WATER SUPPLY INFORMATION

NAME Ashley

MAP REFERENCE NO: 2
CONTROL NO: 0950100
REGISTRATION NO: NE 189 --
COUNTY: Washington

BASIN: Big Muddy

SEGMENT: B-01

RECEIVING STREAM: Little Muddy R. to Big Muddy R.

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

FLOW (AV.,MGD): .060

SOURCE: 1 Trib. to Muddy Creek

PRESENT WATER QUALITY (MG/L):

	TDS	TDS HARD	NON-CARB HARD	IRON
RAW:	97	66	31	0.00
FINISHED:	0	0	0	0.00

TREATMENT TYPE: Purification, Lime softening

WASTES: TSS, BOD
DISPOSAL: Direct to stream

QUANTITIES: Clarifier: .046 lbs/gal
Filter: .0015 lbs/gal

COMMENTS

PLANNING AREAS

PLANNING AREA
201:
208:

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Washington A

PERMIT INFORMATION

NPDES #IL 0051284 (Draft)
EFFECTIVE DATE:
INTERIM LIMIT. DATE:
EXPIRATION DATE:

EFFLUENT LIMITATIONS:

INTERIM

1. $4 \leq pH \leq 10$
2. NO OTHER NUMBERICAL LIMITS. MONITORING REQUIRED FOR PARAMETERS BELOW.

FINAL

BOD
TSS
FE(TOT)
FE(DIS)
TDS

COMPLIANCE SCHEDULE

3/10/76

PUBLIC WATER SUPPLY INFORMATION

NAME Franklin County Rend Lake Inter-City Wtr System

MAP REFERENCE NO: 12
CONTROL NO: 0285100
REGISTRATION NO: N 055 --
COUNTY: Franklin

BASIN: Big Muddy
SEGMENT: B-01

RECEIVING STREAM: Rend Lake to Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

FLOW (AV.,MGD): 10.4

SOURCE: 1 Big Muddy River

PRESENT WATER QUALITY (MG/L):

	TDS	TDS HARD	NON-CARB HARD	IRON
RAW:	0	0	0	.00
FINISHED:	0	0	0	.00

TREATMENT TYPE: Purification

WASTES: TDS, Lime, Alum, Activated Carbon
DISPOSAL: Lagoons

QUANTITIES: Clarifier: 14,597 lbs/day solids
Filters: 796 lbs/day solids

COMMENTS

PLANNING AREAS

PLANNING AREA
201: Rend Lake East FPA
208: GERP&DC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Franklin A

PERMIT INFORMATION

NPDES #IL 0044610
EFFECTIVE DATE: 7/17/75
INTERIM LIMIT, DATE:
EXPIRATION DATE: 12/31/78

EFFLUENT LIMITATIONS:

INTERIM

1. $4 \leq pH \leq 10$
2. NO OTHER NUMBERICAL LIMITS. MONITORING REQUIRED FOR PARAMETERS BELOW.

FINAL - 001

BOD
TSS (mg/l) 15
FE(TOT)
FE(DIS)
TDS

COMPLIANCE SCHEDULE

3/10/76

MINE RELATED INFORMATION

NAME Freeman United Coal Co.
Orient Mine #6
Discharge 002

MAP REFERENCE NO: 8
CONTROL NO: 9645
REGISTRATION NO: NZU 081 04
COUNTY: Jefferson

BASIN: Big Muddy
SEGMENT: B-01

RECEIVING STREAM: Buck Ck.

STREAM 7-DAY, 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE:

PRESENT EFFLUENT QUALITY (MG/L):
TSS TDS IRON ALKALI ACID pH

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

AVERAGE FLOW (MGD):

MINING INFORMATION

TYPE OF MINE: Coal

METHOD OF MINING: Underground

METHOD OF REFUSE DISPOSAL:

RECLAMATION PRACTICES:

ANNUAL PRODUCTION (TONS):

YEAR OPERATION STARTED:

PUBLIC WATER SUPPLIES WITHIN 10 MILES:

PLANNING AREAS

PLANNING AREA
201:
208:

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE:

PERMIT INFORMATION

NPDES #IL 0004707
EFFECTIVE DATE: 7/11/75
INTERIM LIMIT. DATE: 3/1/76
EXPIRATION DATE: 6/30/77

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
TSS (MG/L)		15
IRON TOTAL (MG/L)	2	2
TDS (MG/L)		3500
ALKALINITY	Greater than acidity	
pH	6-9	6-9
Oil (mg/l)	15	15

COMPLIANCE SCHEDULE

Final Plans	9/30/75
Begin Const.	11/1/75
Comp. Const.	2/1/76
Op. Level	3/1/76

COMMENTS

Coal preparation plant
Wastewater 002

MINE RELATED INFORMATION

NAME Freeman United Coal Mining Corp. Orient #6 New Portal 003

MAP REFERENCE NO: 7
CONTROL NO:
REGISTRATION NO: N 081 --
COUNTY: Jefferson

BASIN: Big Muddy
SEGMENT: B-01

RECEIVING STREAM: Trib. to Rend Lake

STREAM 7-DAY, 10-YEAR LOW FLOW (CFS):

FACILITY INFORMATION

TREATMENT TYPE:

PRESENT EFFLUENT QUALITY (MG/L):
TSS TDS IRON ALKALI ACID pH

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

AVERAGE FLOW (MGD):

MINING INFORMATION

TYPE OF MINE:

METHOD OF MINING:

METHOD OF REFUSE DISPOSAL:

RECLAMATION PRACTICES:

ANNUAL PRODUCTION (TONS):

YEAR OPERATION STARTED:

PUBLIC WATER SUPPLIES WITHIN 10 MILES:

PLANNING AREAS

PLANNING AREA
201:
208:

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE:

PERMIT INFORMATION

NPDES #IL 0049671 Draft
EFFECTIVE DATE:
INTERIM LIMIT. DATE:
EXPIRATION DATE:

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
TSS (MG/L)		
IRON TOTAL (MG/L)		
TDS (MG/L)		
ALKALINITY		
pH		

COMPLIANCE SCHEDULE

COMMENTS

Shower & sanitary waste

MINE RELATED INFORMATION

NAME Inland Steel Co.
Inland Mine

MAP REFERENCE NO: 9
CONTROL NO:
REGISTRATION NO: N 081 --
COUNTY: Jefferson

BASIN: Big Muddy
SEGMENT: B-01

RECEIVING STREAM: Unnamed ck. trib. to Rend Lake

STREAM 7-DAY, 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Settling ponds

PRESENT EFFLUENT QUALITY (MG/L):

TSS	TDS	IRON	ALKALI	ACID	pH
	1220	2.4	16	0	8.1

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

AVERAGE FLOW (MGD): .001 sanitary wastes, process wastes & runoff

MINING INFORMATION

TYPE OF MINE: Coal mine process plant

METHOD OF MINING: Underground

METHOD OF REFUSE DISPOSAL:

RECLAMATION PRACTICES:

ANNUAL PRODUCTION (TONS):

YEAR OPERATION STARTED:

PUBLIC WATER SUPPLIES WITHIN 10 MILES:

PLANNING AREAS

PLANNING AREA
201:
208: GERP&DC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE:

PERMIT INFORMATION

NPDES #IL 0036021
EFFECTIVE DATE: 6/20/75
INTERIM LIMIT. DATE: 12/31/76
EXPIRATION DATE: 9/30/79

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
TSS (MG/L)		15(DM)
IRON TOTAL (MG/L)	4	2(DM)
TDS (MG/L)	Rule 203	Rule 203
ALKALINITY	Greater than acidity	
pH	6-9	6-9
F COLI/100 ml	200	200
BOD		4*

* 10 mg/l if exempted

COMPLIANCE SCHEDULE

Final Plans	9/30/75
Begin Const.	12/31/75
Comp. Const.	9/30/76
Op. Level	1/1/77

COMMENTS

IL. Operating Permit #
1975-NP-2139-OP

Complete recirculation system
Discharge consists of overflow from settling ponds

PUBLIC WATER SUPPLY INFORMATION

NAME Mt. Vernon

MAP REFERENCE NO: 1
CONTROL NO: 0410300
REGISTRATION NO: NJ 081 --
COUNTY: Jefferson

BASIN: Big Muddy
SEGMENT: B-01

RECEIVING STREAM: Unnamed trib. to Casey Fork to Big Muddy R.

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

FLOW (AV.,MGD): 2.24

SOURCE: Rend Lake

PRESENT WATER QUALITY (MG/L):

	TDS	TDS HARD	NON-CARB HARD	IRON
RAW:				
FINISHED:				

TREATMENT TYPE: Purification, Zeolite softening

WASTES: TDS, Alum, Lime
DISPOSAL: To stream

QUANTITIES: Clarifier: 3,144 lbs/day solids @ 67,250 gal/day Filters: 172 lbs/day solids @ 112,000 gal/day

COMMENTS

Softeners: TDS = 14,408 mg/l and Chlorides = 8,731 mg/l

PLANNING AREAS

PLANNING AREA
201: Mt. Vernon FPA
208: GERP&DC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jefferson B

PERMIT INFORMATION

NPDES #IL 0045616
EFFECTIVE DATE: 7/17/75
INTERIM LIMIT, DATE: 7/1/77
EXPIRATION DATE: 12/31/78

EFFLUENT LIMITATIONS:

INTERIM

1. $4 \leq pH \leq 10$
2. NO OTHER NUMBERICAL LIMITS. MONITORING REQUIRED FOR PARAMETERS BELOW.

FINAL

BOD	(mg/l)	4
TSS	(mg/l)	5
FE(TOT)		
FE(DIS)		
TDS		

COMPLIANCE SCHEDULE

Final Plans	12/31/75
Begin Const.	3/31/76
Comp. Const.	5/31/77
Op. Level	7/1/77

3/10/76

SOLID WASTE INFORMATION

FACILITY NAME AND LOCATION:

Municipal #2 Landfill at Mt. Vernon

MAP REFERENCE NO: 3
SITE CODE NO: 08180201
REGISTRATION NO:
COUNTY: Jefferson

BASIN: Big Muddy

SEGMENT: B-01

ADJACENT STREAM(S): West Muddy River

STREAM(S) 7 DAY, 10 YEAR LOW FLOW (CFS): 0

LANDFILL INFORMATION

TYPE OF REFUSE: Garbage, liquid waste

ANNUAL QUANTITY (CU. YDS.): 52,000

SITE AREA (ACRES): 45

LEACHATE QUALITY (MG/L):

FLOW (CFS):

PERMIT INFORMATION

IEPA# 74-54

GEOLOGIC INFORMATION

UNDERLYING MATERIALS: Silty clay
clayey loam

COEFFICIENT OF PERMEABILITY: 10^{-7}

DEPTH OF AQUIFER: 12' to W.T.

GROUND WATER MOVEMENT:
DIRECTION:
RATE:

GENERAL INFORMATION

SITE TOPOGRAPHY: Level
SURROUNDING LAND USE: Agricultural

GROUND WATER INFORMATION

MONITOR WELLS-WATER QUALITY (MG/L):

NO.	DATE	WL	CL	FE	TDS

NEARBY WATER SUPPLIES
LOCATION:
DEPTH:

COMMENTS

Natural attenuation

PLANNING AREAS

PLANNING AREA
201:
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jefferson A

3/10/76

SOLID WASTE INFORMATION

FACILITY NAME AND LOCATION:

Municipal #3 Landfill at Mt. Vernon

MAP REFERENCE NO: 4
SITE CODE NO: 08180204
REGISTRATION NO:
COUNTY: Jefferson

BASIN: Big Muddy

SEGMENT: B-01

ADJACENT STREAM(S): West Muddy River

STREAM(S) 7 DAY, 10 YEAR LOW FLOW (CFS): 0

LANDFILL INFORMATION

TYPE OF REFUSE: Garbage

ANNUAL QUANTITY (CU. YDS.): 52,000

SITE AREA (ACRES): 45

LEACHATE QUALITY (MG/L):

FLOW (CFS):

PERMIT INFORMATION

IEPA# 74-54

GEOLOGIC INFORMATION

UNDERLYING MATERIALS: Clay

COEFFICIENT OF PERMEABILITY:

DEPTH OF AQUIFER: 15' - 20' to W.T.

GROUND WATER MOVEMENT:
DIRECTION:
RATE:

GENERAL INFORMATION

SITE TOPOGRAPHY: Level
SURROUNDING LAND USE: Flood Plain

GROUND WATER INFORMATION

MONITOR WELLS-WATER QUALITY (MG/L):

NO.	DATE	WL	CL	FE	TDS
North	1/76		23	20	513
South	1/76		4887	15	8734

NEARBY WATER SUPPLIES
LOCATION:
DEPTH:

COMMENTS

PLANNING AREAS

PLANNING AREA
201:
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jefferson A

MINE RELATED INFORMATION

NAME Old Ben #21 #001

MAP REFERENCE NO: 63
CONTROL NO:
REGISTRATION NO: NZS 055 --
COUNTY: Franklin

BASIN: Big Muddy
SEGMENT: B-01

RECEIVING STREAM: Jackie Branch

STREAM 7-DAY, 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Slurry pond

PRESENT EFFLUENT QUALITY (MG/L):
TSS TDS IRON ALKALI ACID pH

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

AVERAGE FLOW (MGD):

PERMIT INFORMATION

NPDES #IL 0000051 Draft
EFFECTIVE DATE:
INTERIM LIMIT. DATE:
EXPIRATION DATE:

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
TSS (MG/L)		30
IRON TOTAL (MG/L)	4	4
TDS (MG/L)		
ALKALINITY	Greater than acidity	
pH	6-9	6-9

COMPLIANCE SCHEDULE

Comp. Const. 6/30/74

MINING INFORMATION

TYPE OF MINE: Coal

METHOD OF MINING: Underground

METHOD OF REFUSE DISPOSAL:

RECLAMATION PRACTICES:

ANNUAL PRODUCTION (TONS): 7,800/day

YEAR OPERATION STARTED:

PUBLIC WATER SUPPLIES WITHIN 10 MILES:

COMMENTS

Preparation plant. Overflow from slurry pond during heavy rainfall

PLANNING AREAS

PLANNING AREA
201:
208:

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE:

MINE RELATED INFORMATION

NAME Old Ben #26

MAP REFERENCE NO: 11
BASIN: Big Muddy
CONTROL NO:
REGISTRATION NO: NZR 055 --
COUNTY: Franklin
SEGMENT: B-01

RECEIVING STREAM: Sandusky Creek

STREAM 7-DAY, 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Slurry pond

PRESENT EFFLUENT QUALITY (MG/L):
TSS TDS IRON ALKALI ACID pH

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

AVERAGE FLOW (MGD):

PERMIT INFORMATION

NPDES #IL 0000078
EFFECTIVE DATE: 10/30/73
INTERIM LIMIT. DATE:
EXPIRATION DATE: 6/30/78

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
TSS (MG/L)		
IRON TOTAL (MG/L)		
TDS (MG/L)		
ALKALINITY		
pH		6.5-8.5

No flow except during very large rainstorm

COMPLIANCE SCHEDULE

MINING INFORMATION

TYPE OF MINE: Coal

METHOD OF MINING: Underground

METHOD OF REFUSE DISPOSAL:

RECLAMATION PRACTICES:

ANNUAL PRODUCTION (TONS):

YEAR OPERATION STARTED:

PUBLIC WATER SUPPLIES WITHIN 10 MILES:

COMMENTS

Overflow from slurry pond at process plant

PLANNING AREAS

PLANNING AREA
201:
208:

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE:

SOLID WASTE INFORMATION

FACILITY NAME AND LOCATION:

Allen Landfill at Carterville

MAP REFERENCE NO: 34 BASIN: Big Muddy
SITE CODE NO: 19901503
REGISTRATION NO: NF
COUNTY: Williamson SEGMENT: B-02

ADJACENT STREAM(S): Unnamed tributary to Little Hurricane Creek to the Big Muddy River

STREAM(S) 7 DAY, 10 YEAR LOW FLOW (CFS): 0

LANDFILL INFORMATION

TYPE OF REFUSE: Garbage

ANNUAL QUANTITY (CU. YDS.): 93,600

SITE AREA (ACRES): 25

LEACHATE QUALITY (MG/L):

FLOW (CFS):

PERMIT INFORMATION

IEPA# Application not filed

GEOLOGIC INFORMATION

UNDERLYING MATERIALS:

COEFFICIENT OF PERMEABILITY:

DEPTH OF AQUIFER:

GROUND WATER MOVEMENT:
DIRECTION:
RATE:

GENERAL INFORMATION

SITE TOPOGRAPHY: Strip Mine
SURROUNDING LAND USE: Flood Plain

GROUND WATER INFORMATION

MONITOR WELLS-WATER QUALITY (MG/L):

NO.	DATE	WL	CL	FE	TDS

NEARBY WATER SUPPLIES
LOCATION:
DEPTH:

COMMENTS

PLANNING AREAS

PLANNING AREA
201: Carterville FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Williamson A

PUBLIC WATER SUPPLY INFORMATION

NAME Cities Water Co (Royalton)

MAP REFERENCE NO: 19
CONTROL NO: 0285030
REGISTRATION NO: N 055 --
COUNTY: Franklin

BASIN: Big Muddy

SEGMENT: B-02

RECEIVING STREAM: Big Muddy River

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 31.2

FACILITY INFORMATION

FLOW (AV.,MGD): .17

SOURCE: Big Muddy River

PRESENT WATER QUALITY (MG/L):

	TDS	TDS HARD	NON-CARB HARD	IRON
RAW:	430	237	170	00
FINISHED:	275	148	107	2.10

TREATMENT TYPE: Purification

WASTES: TDS, Lime, Alum, Iron
DISPOSAL: To river

QUANTITIES: Clarifier: 238.6 lbs/day solids @ 5,100 gal/day Filters: 13 lbs/day solids @ 8,500 gal/day

COMMENTS

PLANNING AREAS

PLANNING AREA
201:
208: GERP&DC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Franklin A

PERMIT INFORMATION

NPDES #IL Application not filed
EFFECTIVE DATE:
INTERIM LIMIT, DATE:
EXPIRATION DATE:

EFFLUENT LIMITATIONS:

INTERIM

1. 4 ≤pH ≤10
2. NO OTHER NUMBERICAL LIMITS. MONITORING REQUIRED FOR PARAMETERS BELOW.

FINAL

BOD
TSS
FE(TOT)
FE(DIS)
TDS

COMPLIANCE SCHEDULE

3/10/76

MINE RELATED INFORMATION

NAME Consolidation Coal Co.
Burning Star #5
Area BS 5-4
Discharges 001-005

MAP REFERENCE NO: 31
CONTROL NO: 9905
REGISTRATION NO: NE 077 --
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: B-02

RECEIVING STREAM: Unnamed trib. to Little Muddy R. STREAM 7-DAY, 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE:

PRESENT EFFLUENT QUALITY (MG/L):
TSS TDS IRON ALKALI ACID pH

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

AVERAGE FLOW (MGD): .05 Pit pumpage

MINING INFORMATION

TYPE OF MINE: Coal

METHOD OF MINING: Strip

METHOD OF REFUSE DISPOSAL:

RECLAMATION PRACTICES:

ANNUAL PRODUCTION (TONS): 50,000

YEAR OPERATION STARTED:

PUBLIC WATER SUPPLIES WITHIN 10 MILES:

PLANNING AREAS

PLANNING AREA
201:
208: GERP&DC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson B

PERMIT INFORMATION

NPDES #IL 0038491
EFFECTIVE DATE: 7/6/75
INTERIM LIMIT. DATE:
EXPIRATION DATE: 4/30/80

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
TSS (MG/L)		30
IRON TOTAL (MG/L)		4
TDS (MG/L)		Rule 203
ALKALINITY	Greater than acidity	
pH		6-9

COMPLIANCE SCHEDULE

COMMENTS

Also see #16, 17, 18

3/31/76

SOLID WASTE INFORMATION

FACILITY NAME AND LOCATION:

Hindman Landfill at Herrin

MAP REFERENCE NO: 32 BASIN: Big Muddy
SITE CODE NO: 19985802
REGISTRATION NO:
COUNTY: Williamson SEGMENT: B-02

ADJACENT STREAM(S): Hurricane Creek

STREAM(S) 7 DAY, 10 YEAR
LOW FLOW (CFS): 0

LANDFILL INFORMATION

TYPE OF REFUSE: Garbage

ANNUAL QUANTITY (CU. YDS.): 52,000

SITE AREA (ACRES): 40

LEACHATE QUALITY (MG/L):

FLOW (CFS):

PERMIT INFORMATION

IEPA# Application not filed

GEOLOGIC INFORMATION

UNDERLYING MATERIALS:

COEFFICIENT OF PERMEABILITY:

DEPTH OF AQUIFER:

GROUND WATER MOVEMENT:
DIRECTION:
RATE:

GENERAL INFORMATION

SITE TOPOGRAPHY: Strip Mine
SURROUNDING LAND USE:

GROUND WATER INFORMATION

MONITOR WELLS-WATER QUALITY (MG/L):

NO.	DATE	WL	CL	FE	TDS

NEARBY WATER SUPPLIES
LOCATION:
DEPTH:

COMMENTS

PLANNING AREAS

PLANNING AREA
201: Herrin FPA
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Williamson A

MINE RELATED INFORMATION

NAME Old Ben Coal Co.
No 24 Mine
(Discharge 001)

MAP REFERENCE NO: 13
CONTROL NO: 9806
REGISTRATION NO: NZP 055 --
COUNTY: Franklin

BASIN: Big Muddy
SEGMENT: B-02

RECEIVING STREAM: Sugar Ck. to Big Muddy R.

STREAM 7-DAY, 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE: Settling pond for storm run-off and shower water

PRESENT EFFLUENT QUALITY (MG/L):
TSS TDS IRON ALKALI ACID pH

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

AVERAGE FLOW (MGD): Variable

MINING INFORMATION

TYPE OF MINE: Coal

METHOD OF MINING:

METHOD OF REFUSE DISPOSAL:

RECLAMATION PRACTICES:

ANNUAL PRODUCTION (TONS):

YEAR OPERATION STARTED:

PUBLIC WATER SUPPLIES WITHIN 10 MILES:

PLANNING AREAS

PLANNING AREA
201:
208:

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE:

PERMIT INFORMATION

NPDES #IL 0000060
EFFECTIVE DATE: 5/16/75
INTERIM LIMIT. DATE: 6/30/77
EXPIRATION DATE: 8/31/79

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
TSS (MG/L)	30	30
IRON TOTAL (MG/L)	4	4
TDS (MG/L) *	<2000	<1000
ALKALINITY	Greater than acidity	
pH		

* TDS in stream

Sanitary Waste

BOD (mg/l)	4
TSS (mg/l)	5

COMPLIANCE SCHEDULE

Final Plans	12/31/75
Begin Const.	3/31/76
Comp. Const.	5/31/77
Op. Level	7/1/77

COMMENTS

Separate requirements for shower wastewater before mixing with runoff

3/31/76

MINE RELATED INFORMATION

NAME Old Ben Coal Co.
Mine #24 #002

MAP REFERENCE NO: 14
CONTROL NO:
REGISTRATION NO: N 055 --
COUNTY: Franklin

BASIN: Big Muddy
SEGMENT: B-02

RECEIVING STREAM: Unnamed ditch trib. to Big Muddy River

STREAM 7-DAY, 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

TREATMENT TYPE:

PRESENT EFFLUENT QUALITY (MG/L):
TSS TDS IRON ALKALI ACID pH

CONSTITUENTS IN EXCESS OF IPCB CRITERIA:

AVERAGE FLOW (MGD):

MINING INFORMATION

TYPE OF MINE: Coal

METHOD OF MINING: Underground

METHOD OF REFUSE DISPOSAL:

RECLAMATION PRACTICES:

ANNUAL PRODUCTION (TONS): 2,000,000

YEAR OPERATION STARTED:

PUBLIC WATER SUPPLIES WITHIN 10 MILES:
Benton

PLANNING AREAS

PLANNING AREA
201:
208:

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE:

PERMIT INFORMATION

NPDES #IL 0047465
EFFECTIVE DATE: 6/20/75
INTERIM LIMIT. DATE: 7/1/77
EXPIRATION DATE: 8/31/79

EFFLUENT LIMITATIONS:

	INTERIM	FINAL
TSS (MG/L)	30	30
IRON TOTAL (MG/L)	4	4
TDS (MG/L)	2000	1000
ALKALINITY	Greater than acidity	
pH	6-9	6-9

COMPLIANCE SCHEDULE

Final Plans	12/31/75
Begin Const.	3/31/76
Comp. Const.	5/31/77
Op. Level	7/1/77

COMMENTS

#2 consists of runoff and overflow from pond

Mine area downstream of Rend Lake Dam

3/31/76

SOLID WASTE INFORMATION

FACILITY NAME AND LOCATION:

Wiggs Landfill at Benton

MAP REFERENCE NO: 15 BASIN: Big Muddy
SITE CODE NO: 05580203
REGISTRATION NO:
COUNTY: Franklin SEGMENT: B-02

ADJACENT STREAM(S): Big Muddy

STREAM(S) 7 DAY, 10 YEAR
LOW FLOW (CFS): 30.0

LANDFILL INFORMATION

TYPE OF REFUSE: Garbage

ANNUAL QUANTITY (CU. YDS.): 62,400

SITE AREA (ACRES): 40

LEACHATE QUALITY (MG/L):

FLOW (CFS):

PERMIT INFORMATION

IEPA# 75-10

GEOLOGIC INFORMATION

UNDERLYING MATERIALS: Silty loam, sandy loam, weathered shale

COEFFICIENT OF PERMEABILITY: 10^{-6}

DEPTH OF AQUIFER:

GROUND WATER MOVEMENT:
DIRECTION:
RATE:

GENERAL INFORMATION

SITE TOPOGRAPHY: Hillside
SURROUNDING LAND USE: Agricultural

GROUND WATER INFORMATION

MONITOR WELLS-WATER QUALITY (MG/L):

NO.	DATE	WL	CL	FE	TDS

NEARBY WATER SUPPLIES
LOCATION:
DEPTH:

COMMENTS

Natural attenuation

PLANNING AREAS

PLANNING AREA
201:
208: GERPDC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Franklin A

PUBLIC WATER SUPPLY INFORMATION

NAME Gorham

MAP REFERENCE NO: 33
CONTROL NO: 0390350
REGISTRATION NO: I 077 --
COUNTY: Jackson

BASIN: Big Muddy
SEGMENT: B-03

RECEIVING STREAM: Unnamed ditch to Mississippi R.

STREAM 7-DAY 10-YEAR LOW FLOW (CFS): 0

FACILITY INFORMATION

FLOW (AV.,MGD): .03

SOURCE: Drift wells

PRESENT WATER QUALITY (MG/L):

	TDS	TDS HARD	NON-CARB HARD	IRON
RAW:	370	278	4	27.80
FINISHED:	330	305	35	.50

TREATMENT TYPE: Iron removal

WASTES: Backwash water
DISPOSAL:

QUANTITIES:

COMMENTS

PLANNING AREAS

PLANNING AREA
201: Gorham FPA
208: GERP&DC

DESIGNATED LEAD AGENCY (201):

FPA MAP REFERENCE: Jackson D

PERMIT INFORMATION

NPDES #IL Application not filed
EFFECTIVE DATE:
INTERIM LIMIT, DATE:
EXPIRATION DATE:

EFFLUENT LIMITATIONS:

INTERIM

1. $4 \leq pH \leq 10$
2. NO OTHER NUMBERICAL LIMITS. MONITORING REQUIRED FOR PARAMETERS BELOW.

FINAL

BOD
TSS
FE(TOT)
FE(DIS)
TDS

COMPLIANCE SCHEDULE

3/10/76

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3 0112 118350278